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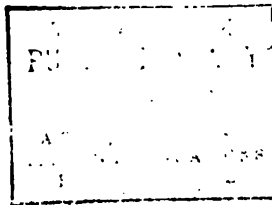
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1. Juvenile literature — Fiction, American



NAS

(initials)



THE GREAT BONANZA.

THE
GREAT BONANZA.

ILLUSTRATED NARRATIVE

OF

ADVENTURE AND DISCOVERY

IN

**GOLD MINING, SILVER MINING, AMONG THE RAFTSMEN, IN THE
OIL REGIONS, WHALING, HUNTING, FISHING,
AND FIGHTING.**

BY

**OLIVER OPTIC, R. M. BALLANTYNE, CAPT. CHAS. W. HALL,
C. E. BISHOP, FRANK H. TAYLOR,**

AND OTHER POPULAR WRITERS.

WITH TWO HUNDRED ILLUSTRATIONS,

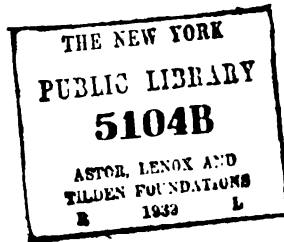
By W. L. SHEPPARD, FRANK MERRILL, H. L. STEPHENS, MISS L. B. HUMPHREY,

AND OTHER WELL-KNOWN ARTISTS.

**BOSTON:
LEE & SHEPARD, PUBLISHERS.**

**NEW YORK:
LEE, SHEPARD & DILLINGHAM.**

1876.



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THE
GREAT BONANZA.

BY
CAPT. CHARLES W. HALL,

AUTHOR OF "ADrift IN THE ICE FIELDS," ETC.

PART I.

THE RUNAWAYS.

IT was nine o'clock, and the bell of the Riverport Academy had summoned its motley throng of boys and girls from their favorite play-ground, the sandy knoll in front. Mr. Stone, the principal, seated himself at his desk on the high platform and struck his little bell sharply: instantly the girls ceased their smiles, their flirting of gay head-ribbons and glossy curls, and the furtive whispers, which sought to finish the communication interrupted by the school-bell; the boys braced themselves sharply back in their seats, folded their arms, and were silent.

"Boys, answer to your names," said the principal, as the lady assistant opened the register, and in clear, distinct tones read off the surnames of the boy scholars.

"Appleton, Ames, Amory, Bearse, Barry, Boyd — Boyd? —"

The first five names had been promptly answered by the monosyllable "Here;" but as the principal heard the sixth name repeated,

without an answer, he frowned angrily, and made a gesture; the reader understood, and all was silence.

"How long has Edward Boyd been absent, Miss Nye?"

"This is the third half day, sir," answered the lady.

"Is your cousin sick, Amory?"

The question was asked of a tall, pale lad, the son of the guardian of the absent scholar, — for Edward Boyd was an orphan, the only son of a sea captain, who had amassed much wealth only to die, leaving his motherless boy to the guardianship of Squire Amory — a grasping and unamiable man. It was well known among the villagers that the dead father's wealth had been unable to secure either comfort or a happy home for his child among his envious relations.

"He started for school yesterday morning with Sam Nevins, and hasn't been home since, sir," said Stephen Amory, with a slight sneer. "Father thinks he has gone to see his grandfather at Concord."

At that moment came a sharp knock at the outer door: the monitor answered the summons, and soon returned, followed by one of the constables of the town, who spoke a few words to the master in a grave tone. Mr.

Stone paled, then cleared his voice, and addressed the scholars:—

"I am sorry to learn that Edward Boyd and Sam Nevins, who played truant yesterday, were seen in a boat at the Old Harbor at the time, by a fisherman, going outside. This morning their boat was found adrift, with an old suit of clothes in the bottom, and Mrs. Nevins has identified them as belonging to her son. It is feared that he went in bathing, and that some sad accident has occurred, in which both boys have lost their lives."

The silence for an instant was awful in its completeness; then a shriek was heard on the girls' side, and Laura Amory, a quiet, delicate girl of twelve, fainted in her seat, and all was bustle and confusion for a moment, while tears and sobs testified to the sorrow of the children for their lost playmates. Miss Nye, however, with two of the older girls, took the insensible form to the recitation-room, and Mr. Stone spoke again, in tones far different from his usual sharp accent:—

"We will hope for the best; and as the boys of the school are accustomed to spend their holidays among the wooded islands and the beech hills below, it is requested that you join the search for your missing companions. School is accordingly dismissed for the day; you will find at the pier several large boats ready to take you down the harbor."

It is not my intention to describe the futile search, which lasted several days, or the useless dragging of the oozy channels near the shore where the boat was found; but neither "Ed" nor "Sam" was found, and the letters despatched to the different parts of the country by the guardian of the former were only answered by expressions of alarm and sympathy. The village paper was full of unusual interest for a fortnight, with particulars of "A Mysterious Disappearance," "A Sad Occurrence;" and a liberal extract from the sermon preached by the good old minister, when there could be but little doubt that the salt sea had indeed swallowed up our playmates.

In poorer taste, and productive of much comment, was an address to the Sunday school by Mr. Amory, who drew from "a recent sad occurrence, a solemn warning to truant scholars and disobedient children;" nor was the public indignation lessened when, in his wife's name, he laid claim to the entire property of his nephew, and obtained it, without paying even the cheap tribute of a marble slab to the memory of the dead boy.

Poor Mrs. Nevins wept much over her lost

boy; but the poor have many sorrows, and the widow's struggles to obtain a support for her three remaining children soon blunted the poignancy of her grief, and the fate of both the boys was forgotten in the constant changes of human life, or recalled only by a few, who could scarcely forget the stout form and rosy cheeks of Eddie Boyd, and the thinly-clad limbs, and colorless, resolute face of Sam Nevins.

That was fourteen years ago. A long time since, as one of the elder boys, I had graduated from the academy, and after six years of study, had returned to Riverport to practise medicine; for the old family doctor had become feeble, and wanted a younger man to visit his patients far away down the sandy coast, or to face the driving rain and sharp, short seas, when a sudden summons came from the fishing hamlets among the islands.

One night, when a north-easter was driving the sleety snow, like clouds of Liliputian arrows, into the smarting face of the traveller, and the war of the breakers on the bar below came up the bay like the distant slogan of a charging brigade, I received a summons which I could not deny, for it called me to the bedside of the old fisherman, who had last set eyes on the missing lads. He had fallen from the mast of his large boat, and broken his arm, besides receiving other injuries, and it was feared that he was dying.

A stanch whale-boat, with five skilled oarsmen, awaited me at the wharf; but the passage was long and doubtful, and the short, sharp seas filled the craft half way to her gunwale, before we at last landed upon the island.

I found my patient, old Job Fisher, anxiously expecting my coming; and after looking at the fracture,—a simple one of the bone above the elbow,—I proceeded to examine into his other injuries. These were more serious; he had struck heavily on his breast and side, among the ballast, and drew his breath with much difficulty, and in great pain. I set the bone, left some simple alleviating medicines, and was about to take my leave, when the patient suddenly asked to speak with me alone, and the rest of the family rose and left the room.

"I want to know, doctor," said he, "what you think of my case. Can I recover?"

I hesitated for a moment, and then answered frankly, "I can't tell now, Mr. Fisher, for your serious injuries are internal, and a day or two must elapse before I can say. You must hope for the best; and I need not tell



you that quiet and cheerfulness are your best remedies."

The fisherman sighed heavily, and then said, "I see that you fear the worst, and I hope that God's will will prove my happiness; but there is one thing that has weighed upon my mind. You remember the time the two lads were said to be drowned, Squire Amory's nephew, and the other?"

"Yes, indeed, I do."

"Well, 'twas the squire and I that came across the boat in the little cove at the back of the island. I rowed up to her, and the squire looked in; a queer smile came over his face, and then he checked it like, and said, 'Poor fellows, they've been drowned. There's no doubt of it.'

"Well, I didn't think at first but what it might have been so. I towed the boat up



towards the town; but as I rowed up, it came into my mind that the boat was *drifting away from the shore when we found it*, and somehow or other, I didn't feel satisfied that the boys had been lost out of her. Then we got to the wharf, and the squire told everybody how the boat had been found adrift, and the clothes of one boy in her; and so all hands believed that Sam had gone in swimming, and got the cramp, and that Eddie was lost in trying to save him.

"Well, sir, the boat, when we got her, was all ship-shape, with two pairs of sculls stowed under the seats, with thole-pins shipped and baler aft, just as we haul our dories up on the beach; and when I got home, my John said, 'Father, there was an extra high tide to-day, and our dories at the Point got adrift before I thought of it, and gave me a long row.'

"Next morning the squire came down, and talked to me about dragging for the bodies. Says I, 'Squire, there's a chance them boys is alive yet;' and then I told him about the dories, and that the wind and tide would never have carried a boat into that cove from any other part of the bay. 'It's my opinion,' I says to him, 'that they've run away, and left the boat there, and the tide came up higher than they expected.'

"'You talk like a fool,' says he, as wrathly as could be; 'don't say anything like that to anybody else, for you'll only excite false hope, that'll never be realized. I shall be very angry if you do, and I know you love home too well to displease me.'

"That was the only time in my life that I was afraid to speak right out as I thought. The season had been unfavorable; the squire held a mortgage on my little place, and I said nothing. I don't know whether I did right or not, but I never yet felt as though those boys were dead."

"Well, Job, I will keep your secret, although I think that the boys must be dead, or else we should have heard something of them in all these years. Now, don't talk any more, and don't worry about Squire Amory's misuse of his power over you, for there are few who would not have done exactly as you did;" and leaving my patient I returned home.

Job Fisher did not die, but his recovery was slow and doubtful; and before he could again accompany his sons to the fishing-grounds, I was suddenly called upon by Stephen Amory, for my senior was away on a short visit. His father had had an attack of apoplexy.

On arriving, I found that the attack was slight; one of those warnings, not to be neglected, of a danger which may be avoided by proper remedies, a suitable dietary, and a careful avoidance of everything that tends to irritate or excite the brain. The usual remedies soon restored him, and he was borne from his library, where the servant had been called to his aid, to his chamber. As I gathered up my instruments, I found on the floor a letter which he had evidently dropped from his hand. It was small, and written on a dirty fly leaf, in a painfully cramped hand. In hopes to ascertain the cause of the attack, I read the short missive, which ran as follows:—

"New York April 6 1865

Squier Amory

this is too let you no that Eddy is Sick, and i am Afrade hee will dy. I am Sick to, the doktor ses, we hav tiffuss fever, the mann who kepes the hows Mr. James Tranor,

sais hee will doo his best, till yu kum. Hee livs att Number 123 east 34 Street. Kum rite away yurs Samuel Nevins."

The paper almost dropped from my hands, as I realized the cruelty and deceit of the man whose life I had just helped to lengthen. The fisherman's story was not without its bearing, then; and folding the paper, I placed it in my medicine case for future use, should time bring round a day of reckoning. On following the patient to his chamber, I found him much more comfortable; and making an appointment for a visit the following day, I returned home.

The next morning I found the old man sitting up in an easy-chair, and tried to draw from him the cause of his indisposition. I questioned him about his diet, inquired into his occupation of late, told him I "knew that undue use of ardent spirits could not be the cause of it," and finally gave him the advice so often given to those similarly attacked, and so often neglected, or given too late, when it is impossible for the patient to follow it.

"You must accept this first and slight attack as a warning; the next may be fatal; but the third is a summons from which there can be no appeal. Medicine can do but little to aid you. A light diet, very moderate exercise, avoidance of extreme heat and impure air, and the enjoyment of what the apostle styles 'a mind void of offence toward God and man,' will keep the life-torrent in its wonted channels, and prevent the suffusion of the brain."

"Can you not give my son or wife directions that they can follow, previous to your arrival, in case of another attack?"

"Certainly, although the chance of their materially aiding you is very remote indeed."

The word "chance" seemed to excite him a little. "If you had had my experience, doctor, you would not speak slightly of chances. I have known men on the brink of ruin, who had but one remote chance in their favor. They took it and are rich men to-day."

I longed to tell him that I knew of the chance that had given me the clew to the fate of his lost nephew, so cruelly left to die in some obscure boarding-house of the distant city; but I saw the flush upon his face, and paused. I was a physician, and knew my duty.

"You are getting excited, Squire Amory. The discussion would be interesting, no doubt, but you must rest until you are stronger."

The gray eyes lost their keen, triumphant glance, and the successful plotter was lost in the enfeebled and apprehensive invalid.

"You think that any unexpected and exciting emotion would be dangerous — do you, doctor?"

"I should fear the worst," said I, gravely, "although the third attack is generally the fatal visitation. In your state of health, your life should be attended by the love of those around you, and that calm hope of a better and higher life which secures the soul from the vexations and disappointments of this stage of existence."

"I think I may claim such a hope, doctor, notwithstanding the slanders and backbiting of some who are but a hinderance and a scandal to the church in which I have been a member for thirty years."

The color was rising again in his flushed cheeks, and raising an admonitory finger, I bowed and took my leave.

Two years after that, a great surprise electrified Riverport, and set all the lovers of gossip in a perfect fever of excitement. Mrs. Nevins, at the close of a day of unusually hard labor, was returning homeward, worn out in body and mind, when suddenly, as she turned into the narrow lane that led from the main street to the door of her cottage, a man heavily bearded, but young and well dressed, accosted her, and asked her name.

"Now don't be afeard, marm, for if I am a rough customer, I've come this time on a welcum arind to you; thet is, ef you're the widdier Nevins."

"That is what I've been called ever since Joshua — that's my husband as was — was lost in the Arethusy."

"Wal, my arind's soon done, if you can answer a few questions. You had a son Sam once, I b'lieve."

"Yes, he was drowned long of —"

"Ned Boyd, I s'pose you was about ter say. Say now, marm, I've heerd that story afore, an' know about the boat, an' the clo'es. Now, was there anything in the pockets?"

"Nothin' but a little Test'ment his teacher gin him at Sunday school, an' thet hed —"

"Exactly, marm, es you say, I s'pose; but could you let me see the Testymment, — that is, ef you've no objection ter my goin' down ter the house with you."

A negative could scarcely be given, and the stranger entered the house, whose dilapidated walls and poorly furnished interior evidently caused him much surprise, as evinced by a low, but long-continued whistle. He, however,

made no remark, but taking the book, held it up to the solitary candle for a moment, and then from under his ample cloak took a stout and heavy bag.

"I'm satisfied, marm, that you're all right, and you'll be able after this, I reckon, to stay at hum an' take things easier. Ef I don't tell you all I might, it's because I hes strict orders, an' I allus keep my word. Look at the fly-leaf of the Testymment, an' you'll un'erstand."

So saying, he left his burden on the supper table, and strode up the lane, while his listener, motionless with the struggling of conflicting emotions, could only watch his retreating figure, and wonder what new trial Heaven had in store for her.

At last she mechanically opened the book, long kept in memory of the boy, whose loss had been one of the heaviest of the many attacks of adverse fortune. The book had been left in a mutilated condition, for a bright gilded prize-card, one of her few simple gifts to her wayward boy, had been torn from the fly-leaf on which it had been pasted. The missing portion had been restored by the stranger: the little card, strangely faded, blurred, and creased, still bore the almost illegible legend, "For this my son was dead, and is alive again; he was lost, and is found."

The children had already opened the bag and poured its little store of broad gold eagles on the rickety table; but even the consciousness of release from menial labor and ceaseless care could not turn the mother's heart from its yearnings after her lost darling. Taking her worn cloak and bonnet, she went out into the darkness, and sought everywhere through the little village; but no one save the landlord of the tavern knew anything of the stranger, whose horse had been fed while his master took his supper, and then rode off, without exchanging more words than were needed to explain his wishes, and settle the bill.

That same evening, however, I was again summoned to attend Squire Amory, who had once more been attacked by apoplexy. I lost no time in applying the proper remedies, and was again successful in restoring him to consciousness. As we carried him to his room, his eyes met mine, and before I left, he feebly enunciated the words, "Come to-morrow." I nodded acquiescence, and returned to my office, to think over my duty in this perplexing case. It was late at night when I slept, but I felt satisfied as to what steps to take, and my decision was final.

On this occasion I found "the squire" much

enfeebled, and greatly depressed. He was still too weak to sit up, and as I entered, Stephen, his eldest son, stood by the foot of the couch, leaning against the heavy rosewood post, with a half-threatening, half-sullen look on his pale, delicately-chiselled features. Tears were in the old man's eyes, and it was at once apparent to me that some topic of exciting interest had been considered, previous to my coming.

I greeted my old schoolmate, but received no answer save a sullen "Good evening," saying which, the young man left the room.

"I am glad to find you better this morning, Mr. Amory, but I was in hopes that you would have escaped a second attack altogether."

"Yes, doctor, and so did I; but I have had too much trouble, and a great deal of busi-



ness, and last night a man called upon me, and his visit upset me altogether."

"Why, Mr. Amory! I thought you a braver man than that. Did he offer any violence?"

The sick man regained something of the old, stern, grave dignity which had so often awed me in boyhood, and I almost felt as in the years gone by, when his searching eye had made an entire class of unruly boys tremble at the discovery of our raid on orchards and melon patches, or some petty act of insubordination, which had necessitated the interposition of "the committee."

"Can I trust you, doctor, implicitly, in a matter of the greatest importance?" he said, with a glance which was strangely compounded of trained sagacity and imploring helplessness.

"I came here this morning, Mr. Amory, with my mind fully made up on one point; that is, to tell you that, in my poor opinion, the cause of your malady is one that I cannot reach with medicine or cure by regimen. If you have a mental anxiety which you wish to communicate, I will keep it as sacredly as the traditions of our profession demand, and I will do all that I can to aid you in anything in which I can be of any assistance to do away with the cause of your disease."

"I will tell you then," said the sick man, tremblingly. "I have lost all my property."

"What!" said I, in amazement; "lost all your property? You, the president of the Riverport Bank, and the largest stockholder? The holder of so much real estate, and —"

"It is as I say, doctor. Last year I was a rich man, and might have been still, if I had been contented to amass wealth in the old, safe way; but I dabbled in silver mining stocks, and a day or two ago an important lawsuit was decided against our company, and its stock fell from one hundred dollars to fifty-five dollars per share. I held three thousand shares, and I lost almost all that I was worth."

"But you were worth nearly two hundred thousand dollars, according to the general estimate, Mr. Amory; and that leaves you seventy-five thousand dollars, even if your stocks should continue at their present low figure."

"I thought so, too; but last night — There, doctor, I can't tell it. Take that paper and read for yourself."

He handed me an envelope, bearing the well-known imprint of a legal firm of New York. The letter enclosed made a courteous demand "for an account of the estate of Edward Boyd, now resident in Virginia City, Nevada, to whom you were appointed guardian in 1858."

I felt that it would be both cruel and useless to feign surprise, and wonder at such a claim from one long deemed among the dead, and therefore took the straight road to an understanding.

"I have for some time had my doubts that your lost nephew was really dead; and so this demand is not such a surprise to me as it would be to our fellow-townsmen. Will the claim ruin you, if enforced?"

"Wholly. The estate, with accumulated interest, amounts to over one hundred thousand dollars! The messenger who brought this — a rough miner, apparently — said that he would come for an answer to-night. 'I

would advise ye,' said he, 'to pay more 'tention ter *this* letter than ye did ter the one the sick boy wrote ter ye frum New York.'

Amory's feelings had evidently led him farther than he had intended to go in his communications to me, for he caught his breath, as if choking, and peered at me uneasily from under his long white lashes.

"I knew of that letter two years ago, Mr. Amory, and therefore you need not hesitate. What else did he say?"

"I don't know how you came to know so much about my affairs, doctor; but the rest of the story is short. 'The boys hev struck it rich,' said the stranger, 'an' they've sworn ter hev the last cent you owe Ned. I reckon *they* knew how Ophir stock was like to pay, when they got Overbury to rope in the president of the Riverport Bank. Good night, stranger. I'll take your answer to-morrow night.' Now, doctor, you see my position. My fault has been punished with the loss of the work of a lifetime, and my unkindness brought forth its harvest of revenge. What shall I do?"

"There is only one way to do, and that is, to make the most complete reparation possible. Give up everything, confess your fault, and seek a reconciliation."

The door opened sharply, and Stephen Amory entered. His eyes blazed with rage and scorn as he rushed to his father's bedside.

"Are you mad, father," said he, "to listen to such cowardly advice? Will you make yourself the byword of Riverport, and beggar Laura and myself? What do you know of this stranger? or who can tell but what this is some trumped-up claim, preferred by an impostor?"

"Stephen," said the old man, "be silent. Call in your mother and sister at once."

The young man hesitated.

"If you wish them to see him again in life, obey him," I whispered, for I feared the worst, as I saw the increased color of the invalid.

In a few moments the ladies entered the room. The squire motioned them to his bedside.

"I once did a very wicked and cruel thing," said he, "and the God of the fatherless has visited me in displeasure. Your nephew and cousin Edward is not dead, and as I, in my avarice, neglected his appeal when sick in New York, he has sought my ruin. Heavy losses of late have left me with nothing but the estate of his dead father, and now he sends to demand it. Stephen wishes me to stand a

suit at law. I am tired of strife, and weary of unjust gain. What shall I do, wife? What say you, Laura?"

Mrs. Amory was not a lovable woman; but duty, with her, was an iron code, not to be set aside for love or fear.

"If you feel that it is your duty to give up all, surrender the last cent, and the very roof above us."

"And you, Laura, what say you, child?" said the squire, eagerly.

Laura's eyes were full of tears, and her cheeks were as pale as death, but she kept back all other signs of emotion as she answered, —

"We shall not be poor, father, as long as we possess the love of God and the affection of each other."

The old man's face lost its threatening glow, and a look of calm contrition softened his harsh features. The dying sun cast his declining rays into the chamber, and the invalid saw that night was near at hand.

"You have chosen well, I feel assured. The messenger who is to take my answer will soon be here, and shall be admitted to receive the message in your presence."

At that moment, a quick, sharp knock sounded at the door, and the servant was instructed to show the stranger into the sick room. His heavy tramp up the broad stairs sounded menacing, and I met him outside the door.

"Mr. Amory has had an apoplectic attack, and the next will probably be fatal," said I. "He will give you his answer inside. Please to be as gentle as you can, and do not excite him."

In the twilight of the corridor I could not distinguish the expression of my companion's face, but I fancied that his voice faltered as he answered, —

"Never fear, stranger. I hes my orders; but I never strike a man when he's down."

"Come in, then," said I; and we entered.

"I hev come fur your answer," said the stranger, advancing as noiselessly as his heavy boots would admit, and stopping about midway between the door and the couch.

The squire turned himself towards the figure, with something of his old pride.

"Had I been left to myself, I should have told you to do your worst; but" (here his voice softened), "the hand of God has been laid upon me, and I have repented of my sin. It is hardly likely that I shall ever live to see Edward Boyd again, even if he were willing to forgive my unkindness, and the cruel silence with which I regarded his appeal to my pro-

tection; therefore I must trust my message to you. Will you carry it truly?"

"Thet is what I'm here for, squire. I hev no other arind, and Ned Boyd shell hear it to the last identical word."

"Then, in the presence of these witnesses, I resign willingly to Edward Boyd all his estate, leaving to him to decide whether or not my heirs shall receive the sum due me as guardian, since he attained his majority. Carry to him my acknowledgment of my sin, and tell him that a dying man asks his forgiveness."

"And tell him," broke in the sweet voice of Miss Amory, "that his cousin Laura begs him, for the sake of the old days when they were children together, that he will forget the past, and be satisfied with regaining his property. Don't advise him to hate my poor father, for he has done all that he could."

The rough voice faltered visibly, and the herculean form seemed less erect and triumphant, as the last words were spoken.

"Ned Boyd didn't expect this change in the old man; and I reckon he won't be over-pleased when he finds thet he's taken the last ore in the lead, and come plum agin the casin'. God bless you, miss; keep up your spirits, an' hope for the best. Good night, gentlemen;" and the messenger's heavy tread died away through the hall; then the door closed behind him, and his horse's hoof struck the sparks from the flinty road as the rough rider dashed away at headlong speed.

Three days later, the mail brought to Mr. Amory another enclosure from the New York firm. It was a deed of gift "of the personal estate of Edward Boyd, as inherited from his late father." The enjoyment of the interest was deeded "to Hiram Amory, executor under the will;" but after his death, the principal went to "my beloved cousin, Laura Amory."

Another letter from Edward Boyd conveyed a full assurance of his forgiveness, and gave such a schedule of the fortune he had amassed, that the princely gift he had made seemed no such sacrifice, after all.

"I shall visit Riverport to-morrow," he continued, "and if you choose to meet me at the depot, I shall be happy to end all unpleasantness in a family reunion before I return to Nevada."

The tears of joy and gratitude which the reading of that letter occasioned I had the pleasure of witnessing; and when the noon train arrived at Riverport, the family carriage bore the squire, well supported with cushions,

to the depot. A tall, well-dressed, keen-eyed man stepped forward to the carriage.

"Is this Edward Boyd?" asked the old man, tremblingly.

The bright eyes grew suspiciously moist as the wanderer sprang into the barouche and grasped his uncle's hand; and an hour later all Riverport knew that Ned Boyd and Sam Nevins had come back from the mines as rich as Cræsus!

The next fortnight was a time long to be remembered in the Amory homestead; and among the pleasures of that season of rejoicing, the recital of the adventures of the

truant lads was not the least. The broad piazza, twined with climbing roses and woodbine, was the auditorium, and the warm summer evenings the time devoted to the relation. Sam Nevins, now a wealthy, self-poised stock operator, was always one of the listeners, and the squire seemed to grow young again, as the sad memories of the past were forgotten in the peaceful happiness of the hour.

As far as memory serves me, the following is a synopsis of a long recital taking up several evenings. In connection with recent developments of the vast mineral wealth of that region, it is not without interest.



TAKING THE BOOK, HE HELD IT UP TO THE SOLITARY CANDLE. Page 9.

PART II.

THE FORTUNES OF THE RUNAWAYS.

"IT is hardly necessary," said Ned, growing visibly red in the face, "to say why Sam and I concluded to run away. I had plenty to eat and drink, and was well dressed, I suppose; but I felt that I was not loved as were the other children. Sam had love enough, but a lack of food and clothing, which his poor mother tried in vain to supply in sufficient quantities. Accordingly we resolved, like the other boys we had read of, 'to go forth to seek our fortunes;' and some months before we carried out our project, we commenced our preparations.

"I had always received many presents of money, which for the most part had been deposited in that curious earthenware money-box which you all will remember. I knew of several five-dollar notes, which I had carefully folded to enable them to pass through the narrow slit in the conical top; and many bits of silver had I hoarded until I could exchange them for a new dollar bill to add to my stock.

"When father died, the amount was considerable; and although my allowance was considerably reduced after that, I received, at different times, presents which largely increased the sum total.

"Sam and I agreed between us that we would go to sea; but Sam refused to leave his mother until her year's supply of wood was sawed, split, and piled. And many an afternoon we worked together, laying our plans, and talking of the sights we should see, until the spring was nearly ended, and our task was done.

"The night before we started, I took my little box into the barn, and chipped a hole in the bottom. Sam was with me, and I poured the contents into his hat. He was evidently amazed at the amount of our capital; and even I was astonished at the gradual accumulations of twelve years — for the first bill, one of ten dollars, had been deposited in it by my mother on my first birthday. We counted it out: there was in all one hundred and ten dollars and fifty-six cents.

"Early the next morning I met Sam at the wharf, where we took an unoccupied dory, and rowed down the harbor to the cove where the boat was found. We hauled her up, as we supposed, above the reach of the tide; and Sam took off his oldest suit and put on one of mine. We each had a small travelling-bag, which I had passably furnished from my own

wardrobe; and, walking over to the lower station, we took the early train for New York.

"On our arrival we fell into the hands of a cab-driver, who plainly told us that he knew we were runaways, and readily coaxed and threatened us into boarding with him during our stay in the city. We had each about five dollars in our pocket-books, and carried the rest of our cash in bills, in the waistbands of our trousers, under the lining. He managed to keep us until our visible cash was nearly gone, when the fever attacked one of his children, and the infection spread to nearly every person in the family.

"Then it was that the rough, tricky cabman and his stout, hard-working wife showed, beneath the compelled selfishness of their ordinary life, a tireless patience and humanity



which I shall never forget. Three weeks they took care of us, and, hearing nothing from you, sent us out to a dairy-farm, where, for our feeble aid in light work, we got our board until we were strong and well again.

"Then good John Traynor wrote to us that he had got us a chance as waiter-boys on a clipper bound for San Francisco. So we left the farm, and returned to the city.

"The captain liked our appearance, and engaged us at once, at eight dollars a month. As we bade Traynor adieu, I produced a couple of ten-dollar bills, and begged him to take them as a part of the sum he had expended on our account.

"'Take it,' said I. 'We have enough to pay our way, even with a little more expense than we are likely to meet. We will pay you the rest when we can.'

"The great tears came into the rough fel-

low's eyes. 'Take yer money—is it? If I do, may I be— There, I won't swear about it; but my hands will be worked to the bone afore I take a cint more from yees. We've a little sum in the Savin's Bank, and I don' know the dhriver in the city as has a better run of custom. It's meself that lift a good home to sake me fortune, and met wid those that hadn't their heart in the bit and the sup when a poor b'y wanted help. There, put up your money; an' whin ye come back from Californy, fetch me a bit of a lump of silver or gould, may be.'

"The next night the swift 'Ranger' was off Sandy Hook, and our sea-life had fairly commenced. Of course we had the usual experiences of green boys at sea. We were miserably seasick, and found our miseries only the subject of rough jests and careless laughter. We were bullied by the petty officers, and teased by the seamen, and soon learned the hard lesson which every one learns who lives under the absolute and irresponsible power of one man. Not that Captain Howard was a harsh or cruel ship-master; for he was really a whole-souled, generous-hearted man, and, in sickness or misfortune, no one who had any claim upon his kindness had reason to complain.

"At San Francisco he secured a charter to Calcutta and return; and we agreed to remain on board the Ranger until she got back again to San Francisco. 'You chaps are pretty smart for such little shavers; but you're only fourteen now, and hardly old enough to take care of yourselves yet. Just stay with me another year, and I'll try and get you a berth in some store or other when we get back.'

"We were easily persuaded; and for two years we remained on the Ranger. But at last she was ordered back to New York, and Captain Howard, after vainly endeavoring to persuade us to go with him, was as good as his word in getting us a situation.

"It was during the early part of the war, and the ship had been sold to the government for the transport service. The captain was to take her to New York; and as there were already rumors of rebel privateers in the South Pacific, she was pierced for guns, and furnished with four thirty-twos; a number of gunners and extra men were supplied from the navy-yard; and it was not until the night before she sailed that we were summoned to the cabin to be paid off and discharged.

"'I am sorry, boys, to leave you here,' said the captain, 'for I've found you honest and reliable; an' I've tried to do as well for you as a rough, uneducated fellow, that has worked

his way up from before the mast, could. I had a good mother once, and, although you wouldn't think it, have tried to keep you from deviltry, and swearin', and such like, as much as I could. We're a rough set, and the cabin of a liner isn't the place to learn much that is good; but I'm afraid it's a deal better than the only place I can get for you now.'

"Sam and I looked at each other in amazement not unmingled with alarm. Could it be possible that we, who had witnessed so many boisterous, scurrilous, blasphemous sea captains in their revels, were about to assist at orgies to which these should be comparatively innocuous, and even preferable. The captain laughed a little; but there was a trace of sadness in his tone as he continued:—

"'I don't wonder you look surprised, boys, for you've seen what we call some "gay old times" in this cabin, and found me, more than once, as poor a saint as I am a preacher. But the evil you saw then was in the rough, and disgusted you, I've no doubt; and much of the bad language you heard was the result of rough training and ignorance more than of deep-seated wickedness. Now I've got you a situation something like the one you've had here, in a club-house, where some of the richest and best educated men of the city live together. They will teach you more politeness than I have; you will wear finer clothes, sleep softer, and eat of the best the market affords; but the evil which you see will be gilded by wealth, and learning, and style; and you will find mean and wicked thoughts beneath the merchant's broadcloth, which the roughest sea-dog of our line would despise.

"'However, I don't know that I've any right to talk in this way. People come here to California to get gold; and all the passions that fit men for hell seem to find this a good growing soil. Besides, I'm something like old Cap'n Barnes when he joined the church. He was a terrible rough, profane old fellow; and when he got real mad it took any amount of grace to keep him from swearing. At last he ripped out one day at a meeting about church matters, when a smooth-going member tried to play a pretty sharp game on the society. The minister, a good old soul, rose and called the cap'n to order, and reminded him that a Christian should be above reproach, and quoted something about keeping himself "unspotted from the world."

"'The cap'n got up and said he felt sorry for what he had said, and begged the pardon of the members; but he had told them, when he joined, what his failing was, and that he

was afraid he should bring scandal on the church. "But, said he, "our minister tells us that we are to be soldiers, fightin' the good fight against the devil an' all his angels. Wal, once I knew a man who told me of a terrible fight with Injins, in which all the party was killed but him. They was all round him, but single-handed an' alone he fought through the crowd and got clear at last. One day this feller went in swimming, *and his skin hadn't a scar on it.* I set that man down as not much of a fighter any way. An' I think thet the Christian thet hes no failin's can't have felt much of the power of the temptations and wickedness of the world."

"So, boys," continued our worthy Mentor, 'perhaps it's just as well that you should see the other side of the card. If you determine to be honest and manly, you'll come out all right. But don't let the weakness and meanness of any one destroy your faith in the goodness of God and the kindness and generosity of mankind. Well, you've had my lecture, and here is the balance of your wages;' and after paying us off, our old friend took us up to the buildings occupied by the Occidental Club, and presented us to our new employer.

"Gerald Rushton, or, to use his popular cognomen, Col Rushton, was a middle-aged gentleman, with an air half military, half genteel, a portly body, and a sallow, flabby face, half covered with a huge mustache, and with a pair of large black eyes surrounded by those heavy, leaden-hued circles which tell of vitality wasted by unnaturally late hours and a life of dissipation. Perfectly polite in every word and action to all the frequenters of the club, never excited to passion or awakened to enthusiasm, he was a perfect master of a situation where the main points were to provide well for the animal comforts of the inmates, and to keep carefully from the outer world the hidden life of his customers. He received us coldly, and summoned the head waiter, who furnished us with the uniform costume worn by the employees of the establishment, and assigned us to different stations.

"Of the two years we spent there I care to say little, for much of what I heard is unfit to be repeated here, and the scenes which I witnessed in the luxurious parlors and around the card-tables of the club will never fade from memory while I live. True there were but few occasions when the men who were beggared in those stately rooms sought relief in self-murder, or avenged their betrayal to ruin by violence; and the few exceptional cases were

smoothed over by the influence of the members of the club, and the tact and self-possessed coolness of 'the colonel.'

"We were, from the first, favorites with our superior, for our life on shipboard, and our hardened constitutions, enabled us to do the 'night-work' of the institution with comparatively little exhaustion from want of sleep. Much of our work was in attendance on the card-players, who seldom rose from their fascinating occupation until two or three in the morning. There I saw enough to convince me that Rushton was not the uninterested spectator that he seemed; and at last I found that his earnings as superintendent were but an unimportant part of the wealth he drew from an organized system of wholesale spoliation. His victims were for the most part



young men, who never dreamed that the men whom they honored as leaders in politics, law, and trade could lend themselves to aught more debasing than high play at cards; or if they did suspect the truth, it was impossible to verify their suspicions.

"At last, one day, as I loitered by the side of the Pacific Mail steamer, which was just on the point of starting, I saw a tall, fine-looking man bidding adieu to a youth whom I had already noted as a fresh victim of the colonel's wiles.

"'Good by, Henry,' said the father. 'Don't stay here any longer than you can help, but be off to Washoe at your earliest opportunity. Schaeffer and Scales need the money, and we want you at home with the old folks as soon as possible. Give my kind regards to Rush-

ton. I suppose you will stay at the Occidental a week longer.'

" 'Yes, father,' said the young man; 'I want to give a fortnight to seeing San Francisco; besides, Rushton has given me introductions to so many men of considerable note, that I feel like pursuing the acquaintance farther.'

" 'Well, Henry, do as you think best; but don't fail to set out in a week at farthest.'

"At this juncture the bell rang, and with the usual bustle, din, and hurry, the steamship left the wharf, and the young man watched the stout vessel until, on the swift current of the reflux tide, she slipped through the rocky portals of the Golden Gate.

"There was something in the stately tenderness of the father, and the manly affection of the son, which awakened me to a sense of my duty in the premises. I looked around for the stranger. The ship had rounded the headland, and with an audible sigh the young man turned his face towards his new home.

" 'I believe you are stopping at the Occidental,' said I.

" 'Yes, sir; I came there three nights ago. You are employed there — are you not?'

" 'Yes, sir,' said I; 'I am at present one of the attendants in the card-room.'

" 'I thought I remembered your face. What can I do for you, my lad?'

" 'Nothing, sir. It was in the hope of doing you a service that I took the liberty of addressing you. I wish to give you a warning.'

" 'A warning! Why, you are becoming quite mysteriously interesting. But, pardon me, sir, what have I to fear?'

" 'Nothing but the loss of your money; but that, I fancy, would be serious enough in its consequences.'

" 'The deuce! yes, I should think so. But how am I likely to lose it, my dear sir?'

" 'At the card tables of the Occidental.'

"The young man started.

" 'Impossible. I know no one there except men too high in position to become gamblers, and of characters too well-established to be affected by anything which you or I could say.'

" 'You are right; and I shall say nothing. But I, perhaps, may be allowed to remind you of the leading events of last evening?'

"The young man bowed his acquiescence.

" 'You came in with Colonel Rushton and Mr. A., who introduced you to Senator D. and Lawyer Y. You sat down to a game of whist, at half-dollar points. Before you went to bed at two, the game had been changed to draw poker, and you had lost heavily.'

" 'You have used your eyes well, I must admit. But such a succession of events might have been the legitimate result of a fairly-played game. I see no reason, however, which should lead you to deceive me; and I will be on my guard.'

" 'Let me give you one piece of advice, sir,' said I: 'never bet on any hand, however large, unless you have dealt the cards yourself; or, if you must bet, wait, and "call" as soon as you can. You will soon see that, however good a hand you may hold, a better will be in the hands of one of your companions. I have seen the results of a different course too often to have any doubts of your ruin if you despise my advice.'

" 'I do not despise it, sir, and will test it to-night. If you prove right, I shall not be ungrateful. Will you give me your name?'

" 'My name is Edward Boyd, and I shall be on duty at the card room to-night. You will be invited to play again this evening, you may be sure. We must part here. Don't recognize me at the house, sir.'

"That evening, as I went up stairs to the parlor devoted to card-playing, I passed the young man, whose name I learned during the day was Henry Hunter. 'The senator,' as his companion was generally styled, was displaying his really brilliant powers of conversation, and had evidently charmed the young man by the bland richness of his voice and his vast fund of general information. At that moment the lawyer and Mr. A. met them.

" 'Shall we finish that little game to-night?' said the latter. 'Y. leaves for Sacramento to-morrow morning, and I suppose Hunter will be on his way to Washoe before his return.'

" 'My young friend and I have been having such a charming conversation that I hardly care to sit down in that close room with so many players. Let me play the host to-night, gentlemen. — Mr. Rushton,' said the senator, raising his voice, 'send up some refreshments to my room: we are going to sit there this evening; and if you feel like dropping in upon us, don't use any ceremony, I beg of you.'

"I caught Hunter's eye. He started, but instantly recovered his usual politeness and easy confidence; and the party went up to the luxurious rooms of the senator. At about midnight A. and Y. entered the card room perfectly furious.

" 'Did you ever see such luck?' said the former. 'He has won back all that he lost last night, and bet as if he suspected.'

"'Hush!' interposed his more cautious legal companion. 'I'll lay my life that he does suspect; and the less said the better. But Rushton will take my place to-night, and —' The rest of the interesting conversation was inaudible.

"The next morning Mr. Hunter beckoned to me as I passed through the smoking-room.

"'You were right,' said he, in a low tone. 'Can I see you anywhere alone by and by?'

"'I am off duty at two, and shall take a stroll on the wharf. If you choose, I can meet you there;' and I passed on to finish my errand.

"At the hour appointed I met Mr. Hunter. He acknowledged my timely services, and announced his intention of going to Nevada the next day.

"'I don't like to leave you here, for this is no place for a boy like you. I wish I could take you with me.'

"The chance I had long desired had at last presented itself.

"'I wish you would take me with you. I can work hard, and have wanted to go to the mines a long time. Have you no work for us to do? for I can't leave Sam.'

"'Then you have a friend?' said he, laughing. 'You have never told me about Sam.'

Then I related our little history; and when he again spoke, the laugh had disappeared from his tone, and his soft black eyes were full of almost womanly tenderness.

"'You shall both go with me; that is, if you can leave to-morrow, and are willing to try the rough and weary labor of a miner's life.'

"'We were paid off two days ago,' said I; 'and Sam has long been urging me to leave the service, for the night-work has already begun to tell upon us.'

"The next day, at four P. M., Mr. Hunter, Sam, and myself were on board a steamer bound up the Sacramento River, *en route* for Washoe. At Sacramento we took the train for Folsom, where stages awaited our arrival, to convey us over the Sierra Nevada to Virginia City.

"Of that long night-ride I have many and varied memories. The first score of miles led us over a terribly cut-up road, from which volumes of dust arose, choking the lungs, and hiding the deep dry ruts which threatened at every moment to upset the ponderous stage. But about an hour after leaving Placerville, where we stopped for supper, the roadway became a hard gravel; and, as the shadows deepened, we sped through the winding approaches which lead through threatening walls of eter-

nal adamant and gigantic red wood groves to the narrow trestle-bridges which span the swift American and its granite-walled tributaries. The night was one of those clear, star-lit ones which give to every cliff and forest a blackness which only served to throw into more startling distinctness the skeleton of some blasted tree, or the vast detached boulders which lie scattered above the winding road which leads up to the summit.

"Strewn over the mountain-sides, as if flung by those Titanic warriors who essayed their mighty prowess in vain against the hosts of heaven, many rested upon a base so narrow, and apparently insufficient, that more than once, as I awoke with a start from a momentary doze, I repressed with difficulty a cry of alarm, as at some sudden turn a huge fragment seemed about to crush us in irresistible descent.

"At three A. M. we reached the summit, and saw afar off on the horizon the pearly flush that men call 'the false dawn.' The air was chill, almost frosty, for we were eight thousand feet above the level of the sea.

"The next six miles was a headlong rush downward along 'the new grade,' a shelving road, winding along the side of the mountain, without post or rail between the road-way and the abyss whose rocky bottom lies hundreds of feet below. The sun rose as we passed beneath the lofty cliff where the pine-crowned Point-of-Rocks overlooks the limpid waters of Lake Tahoe, and after crossing 'The Divide' beyond the Glenbrook Station, we passed through Carson Silver City and Gold Hill, and entered the devious streets of Virginia City thirty-eight hours out from San Francisco.

"For the last few miles all traces of natural beauty had been lost in the unceasing struggle which for five years past had been waged between human skill, with its armies of laborers, and wealth of scientific appliances, and powerful engines, and the grim walls and ledges of metamorphic rock, which for ages had faithfully guarded the treasures of the mountains.

"Gangs of miners covered with mud, or white with dust, issued from the bowels of the earth, or disappeared into rocky fissures like the gnomes of German story. The air was full of penetrating rock-dust and the poisonous vapors of the smelting-furnaces. Tall pillars of iron bore up the vast pulleys of the hoisting apparatus, which at once carried the miner down to his task a thousand feet below, and raised 'to the bank' huge buckets of gray ore worth a king's ransom; and the way

was almost choked with wagons and vehicles bearing new machinery, food, and goods of all kinds to the miners' city.

"We were well received by Messrs. Schaeffer and Scales, two foreign gentlemen, of large mining experience, who, with the elder Hunter, owned a large interest in one of the principal mines. Henry Hunter was to be the head book-keeper of the concern, and at once stated his wishes concerning us to the managers.

"Schaeffer, a nervous, black-bearded German from the Hartz Mountains, answered, in his quick, kind way, —

"'Certainlee, dey shall have a situation; but dere is just now no place, except dey sall work in de mine, or watch de works of reducti-on.'

"'You won't find the first so pleasant as your duties at Frisco, I'm afraid,' said Scales, a bluff Englishman, who had served a long apprenticeship in the mines of Potosi. 'But there's a better chance for you to learn there what may yet make both your fortunes.'

"We both decided to work in the mine; and Scales promised us eighty dollars a month and our board.

"'It is not commonly done; but we owe you a debt, and you and your friend shall live with us as long as you stay in Virginia City.'

"We accordingly gladly accepted the offer, and the next day went down the shaft with Schaeffer, who called our attention, here and there, to the rocks which, dripping with condensed moisture, and frosty with gathered dust, still showed here and there a glimmer of white or rosy quartz, a glint of semi-transparent or snowy spar, or the grayish-red surface of fractured hornblende.

"'I do suppose,' said our voluble guide, as we rapidly descended into the apparently bottomless abyss, 'that you sall be dis-apointed that you see no silfer. But you sall seldom see silfer, as dey do find gold and copper, in threads through de solid rock. Now, dere,' he said, as we shot by a narrow opening, evidently a cross-gallery, 'dat was our best ore, and we did get seven hundred dollar a ton from some of it; and yet you would not pick up a piece of it on de street, unless to trow at a dog.'

"'And do you never find silver in visible quantities?' asked Sam.

"'O, yes; in Norway, at Konigsberg, dey did find one mass of silfer as long and as big as a mans, and dat weighed nearly five hundred pounds. Den in Mexico and Peru dey do often find pure metal in large pieces. But we do never do so here. Dere has been, however, in some mines, large pockets of what we do call de horn silfer, or what de chemists do call

de "natif chloride of silfer." Dis is often three quarter parts rich in pure metal, and,' lowering his voice, 'I has sometimes found a very leetle in dis mine.'

"At last we reached the lowest level, a thousand feet below the surface, and were set at work by an overseer, to whom we were especially recommended by the kind-hearted German; and in a few days we had settled down to the monotonous drudgery of silver mining.

"For two years we worked thus; and Sam became especially skilful as a miner, and his judgment in the matter of ore became wonderful. There was not a shaft, level, cross-cut, or winze in the district of which he did not carry in his head a complete mining-chart; and at last he was always taken into council when a new mode of approach was proposed; and his pay had been proportionally advanced.

"As for me, my health could not stand the hard labor so well, and under Mr. Schaeffer's direction I became quite an expert in the reducing process, by which the metal is separated from the rock, and the copper, sulphur, arsenic, lead, and other substances, with one or all of which it is nearly always associated.

"In 1865 nearly all our works were founded on the Mexican amalgamation process, said to have been invented, in 1557, by a certain miner of Pachuca, named Bartholomew de Medina, although Schaeffer used to assert 'dat my countrymen of de Suabian mines did practise dat long ago.' As carried on in Mexico, the ore is reduced to powder by stamps, and then transferred to the rude crushing mills, or *arrastras*, as they are called, where stones, revolved by mule power around a stone-paved trough filled with water, reduces the ore to the finest of dust. It is then, in the state of mud, placed in the amalgamating yard, which is also floored with stone, and, with the addition of from four to twenty per cent. of salt, is made into large heaps. When iron pyrites, or crude sulphate of iron, is not naturally present, quantities of this are added, with roasted copper pyrites, or sulphate of copper, besides lime and decaying vegetable matter.

"These materials are duly mixed by the trampling feet of many horses or mules, and about six times as much mercury as the estimated weight of silver present is sifted through stout canvas pockets, and intimately mingled with the heap. The process, depending on natural heat and a slow chemical action, takes about five months, and the loss of mercury and waste of ore is very great.

"Our stamps were of steel, six in number,

driven by a powerful steam engine. Each weighed nearly eight hundred pounds, and kept up a ceaseless ponderous dance in an iron box, called a battery, into which trickled a minute stream of water, which swept the finest of the gray mud through a thin wire screen into the amalgamating pans — great 'jacketed' tubs of metal kept hot with super-heated steam. In these constantly revolved huge mullers, which intimately mixed the pasty ore with the mercury which was frequently sifted into the pans, and seized every particle of purified gold and silver. Salt and sulphate of copper were used to destroy the admixture of baser metals, and the constant flow of turbid water which ran from the pans was carried off in broad wooden troughs, called 'sluices,' lined with coarse woolly blankets, and obstructed with 'riffles,' or small horizontal troughs filled with quicksilver, to arrest the minute particles of silver, which would otherwise have been lost to a large amount.

"Every week the workmen at the mill 'cleaned up.' Clearing the crisp, heavily-laden quicksilver from the pasty mud which it had robbed of its treasures, they made it up into large balls, which were afterwards placed in a retort, whose heat soon dissipated the mercury in vapor, leaving behind only a compact lump of frosty, glistening, spongy gold and silver. Of course care was taken not to lose the quicksilver, which was saved by cooling it in a condenser, and gathering it in a reservoir of water.

"In 1870 I had worked five years at silver mining. Hunter was now the agent of the company in his native city. Scales had dabbled in stocks in other mines, 'struck it rich,' and gone 'home' to England. Sam was in his place, and I had taken Hunter's, while Schaeffer still stuck manfully to the task of making the 'Consolidated' pay.

"The outlook was poor, for our expenses were enormous, and heavy dividends, paid in periods of transitory success, had reduced the resources of the mine at a critical period.

"One night Schaeffer came home to our 'bachelor's hall' in despair.

"'Everything goes against us. De ore in de fourteen hundred foot drift gets worse and worse, and seems to pay less than reducing rates.'

"To understand what follows, you will remember that we were working for a vast corporation, comprising thousands of stockholders, holding shares whose nominal value was one hundred dollars apiece. The owners, managers, and even the workmen, had a right

to buy stock; and for some years Schaeffer had invested the most of his earnings in the stock of the company, which was now at about eight dollars per 'foot.'

"I tried to cheer him up; but he seemed to have given up all hope, for the abandonment of the mine would leave him almost penniless. Suddenly we heard a rush of men outside, and a call for the superintendent; and a second later a man rushed in sobbing as if his heart would break.

"'What's the matter, Jack?' said I; 'anything wrong at the mine?'

"'Matter enough!' said the fellow, a rough miner, who had been Sam's favorite workman, though no one else cared to have anything to do with him. 'The cross-drift from the new winze' (a narrow shaft not a part of the main shaft) 'has caved in, and Sam Nevins is killed!'

"'Mein Gott! Was ungluck is das?' cried the German, awakened from the contemplation of his own misfortunes. 'Here, Jack, how did it happen? Tell it to me quick. Perhaps dere is yet a hope.'

"'I'm afraid it's all up with poor Sam. However, I'll soon tell you all that I know. You see, Sam set Johnson and I to sink this winze, an' one day he came down, an' after takin' a look at the rock, he said, "Jack, cut a drift thar." Wal, we ran in about twenty feet, an' pillared it up, for thar was a hangin' wall, and things wasn't over safe. To-day Sam come down an' found Johnson coming out. "Whar ye goin', Johnson?" said he. "Out o' this," ses Johnson: "them posts are cracking like all possessed, an' I just got a pelt of a stone from overhead." "All right," says Sam. "I'll go in for a moment;" and then he come in with Johnson's can'le and pick.

"'Wal, I'd been at work along the hangin' wall, and had made a little hole to the south'ard, jist about large enough to sit up an' work in. He just gin a look at the hangin' wall, an' got into the little cove, when I heard him say something. I stooped to listen, when about a bushel of fragments dropped on my back, an' I heard the posts rippin' an' crackin' all round me. All I remember is, dodgin' an' twistin' among them props, and reachin' the winze just in time to be hauled up by Johnson before the hull cross-drift caved in.'

"'Come on, men!' said Schaeffer, seizing his hat; and following his example, we rushed to the mine, and descended to the level from whence the exploring shaft had been sunk.

"It was now filled up, the earth and rock having fallen away from the receding wall,

which lay bare where a wide crevice marked the line of cleavage.

"Jack, will you risk your life on the chance?" said Schaeffer, kindly.

"The stout miner never faltered or hesitated.

"Ef it was quicksand or wet clay, which it isn't, he'd do as much for me."

"Den follow down dat crevice, dere, and dig close to de rock;" and, after a few short questions and answers, the skilled miner set the proper direction, and several men commenced digging rapidly in the range indicated.

"At first the work was easy and comparatively safe; but by morning, when they struck the broken supports, the loose earth and fragments of rock threatened every moment to bury our friend and his would-be saviors in one common tomb. Finally Jack cried out that we had found him; and we drew up the limp, insensible body, and afterwards the miner, worn out with fatigue and sorrow.

"A litter was improvised, and the body of our friend taken to the shaft, where it was raised to the surface and carried to the house. For a long time all efforts at resuscitation failed; but at last Sam knew us; and the doctor said that he would live.

"I watched with him that day, and about noon he woke and seemed to know me. He tried to speak, but all that I could distinguish was 'Look here; buy stock;' and he motioned to his breast, and then again sank into a kind of doze. His clothes lay on the chair beside me; and taking his rough vest, I tried the inner pocket. It was full of a curious black material, of a friable nature, and among it were one or two lumps of an opaque, horn-like substance, whose weight bore witness to its mineral nature. We had 'struck it rich' at last. It was native chloride of silver.

"I called Schaeffer in, and showed him the specimens. I shall never forget how he listened impatiently to my story of where I procured it, and how he embraced me when he found that Sam's nearly fatal adventure had brought us the fortune we had almost despaired of.

"I got leave to go to San Francisco at once, for the day we had long been preparing for had come. For ten years Sam and I had saved our joint earnings; for ever since the day when we broke open the stone-ware money-box we have had one purse.

"We were worth about fifteen thousand dollars, and before the end of the week I had bought at the broker's board fifteen hundred shares of 'Consolidated' stock. It cost on an

average ten dollars a share. Two weeks later the shares had gone up to fifty dollars. I wanted to unload; but Sam kept run of the lead, and told me to hold on.

"We sold out at two hundred dollars, and made, of course, nearly three hundred thousand dollars. Since then we have bought and sold stocks, and have manipulated millions of dollars. We vowed to ruin you; but, happily, we learned in time of your ill health and changed feelings towards me. Your shares in 'Ophir' are a good investment, and, if you hold on patiently, you will regain your losses."

The night shades had begun to gather. Squire Amory rose to go in, and the rest followed his example. Laura alone stood looking to seaward from the rose-entwined porch. Edward suddenly joined her.

"I must return to Nevada," said he, "unless you can give a favorable answer to my question of last night."

"You know, Edward, that I always loved you; but my father may be taken away at any time; and you have too much yonder to sacrifice for me."

"No, Laura, no; I do not think so. Wide-spread as are the ledges which stand where once curled the fiery waves of a molten sea; deep as are the shafts which follow the narrow veins, shot with precious metals, to their central sources far below the reach of even man's tireless search for wealth; vast as are the riches which still await the dauntless seeker, — still, contentment is the source of all happiness, and love is not to be sold for a little more gain."

And later, when the whole earth was ringing with tidings of the vast wealth of the mines of Nevada, Edward Boyd sat one evening by the window, gazing abstractedly into the starlit sky. His paper had fallen from his hands, and his young wife knew what had taken possession of his heart. With the little Edward in her arms, she glided to his side.

"Are you sorry that you did not go back?" she said, tenderly.

The vision of the fierce conflict of warring interests and splendid successes, which had tempted him for a moment, faded away, and the flush passed from his face as he answered, —

"I have enough and to spare, and all that can ennoble the soul or enlarge the understanding is spread out before me. Why should I care to leave home and friends, and a love beyond price, to join in yonder heartless strife, although the prize were the richest lead of THE GREAT BONANZA?"

VACATION IN PETROLIA.

I. BORING FOR OIL.

ARTHUR and Fred had an invitation from their uncle Charley to visit him in the oil regions, and see how petroleum was taken from the depths of the earth. Their parents consented to their spending "the long vacation" there. They needed little baggage, except an old suit of clothes and a strong pair of boots, each — so their uncle wrote. Little Lulu wanted them to "brin' her some oil to dease her haa," and she carefully tucked a bottle into the corner of their trunk for that purpose. As they left their pleasant Massachusetts home, the last thing they saw was Lulu laboriously waving a towel, in lack of a handkerchief; and the last thing they heard was her piped injunction, "Don't forget my oi-ell!"

Uncle Charley met them at Titusville, and went with them down Oil Creek. Leaving the cars a few miles below Titusville, they went by a road which wound its way among rocks and stunted trees up the steep mountainsides, and reached the tract on which was uncle Charley's lease. They were amazed at the number of derricks they saw. There were derricks everywhere — on the level all along the creek, and scattered all up the steep sides, and on the very tops of the bluffs, in places where it did not seem possible for a derrick, or even a man, to stand. The greatest wonder of all was how men ever raised the big engines and ponderous machinery to places where one could not climb without grasping roots and shrubs to keep from falling.

Arthur said the derricks looked like skeletons of pyramids.

"No," said Fred; "they look like frames to build lots of Bunker Hill Monuments with."

On the tract where uncle Charley's lease is there were thirty wells drilling or in operation, and the scene was one of life and interest, instead of the wildness and desolation they had expected to see. The forest of spectre-looking derricks, the smoke and steam of the engines, the clatter of bull-wheels, the "whir" of sand-pump reels, the shouts of teamsters and miners, the constant coming and going of mud-bespattered men in long boots, some prospecting for leases, some buying and some selling oil, others arranging for the boring of new wells, — all this made up a strange and exciting life.

The boys took a deep interest in the business, and begged to stay at the wells all the time, instead of at Titusville, with an occasional visit to the wells, as their father had

planned. Uncle Char'y, who remembered his own boyhood better than most men, and appreciated a boy's love of adventure, indorsed their petition, saying, "Why, let 'em stay, John. They can get their meals at the boarding-house with the men, and I will have a bunk built for them in the shanty where the rest sleep, and I warrant they will like it. They wouldn't be easy in Titusville a day, after catching the excitement of the business. *Men* who taste this life want to stay in it."

So it was arranged, and the boys enjoyed it from first to last. Their mother's anxiety about their health, in such an unaccustomed, rough mode of life, was groundless. Everybody was well. The men attributed it to the oil with which they were covered, and the gas of which they breathed. One of them told the boys that, if they wanted to enjoy good health, they should take a swim every morning in one of the tubs of black, odorous grease. Probably the bracing air, pure water, active, rugged life, and plain fare, had as much to do with good health as the oil and gas.

The men who had the contract to bore uncle Charley's well were just beginning operations. The boys soon were on intimate terms with them, and asked many questions. They made themselves quite useful in handing tools and nails, and going on errands; and, as they were well-behaved boys, abroad as well as at home, and took care not to get in the way, the workmen were glad to have them there.

The first thing was building the derrick. They commenced by nailing strips of plank together at the two edges, forming a half square. Fred asked if those were troughs to run the oil in. The men smiled, and said they were for the corners of the derrick. Four of these they set up on end twenty feet apart, leaning them a little towards each other, and spiked strong cross-pieces and braces from one to the other. Then another section was built on the top of this, in the same way, still leaning towards the centre, until, when the derrick was fifty-six feet high, it nearly came to a peak in the centre. On the top they fixed two iron pulleys. Then they laid a strong floor in the derrick, and nailed pieces at one corner to make a ladder to the top, and the derrick was finished.

Arthur and Fred were as much delighted with the tower as if they had built it themselves; and, indeed, they had helped. Arthur climbed the ladder, and stood on the pulley-frame at the top. A mixed panorama was spread out before him. Far away extended

the valleys of Oil Creek and the Alleghany River, with the Alleghany Mountains on each side. All the expanse of mountain and valley was dotted with derricks and engine-houses. Even beyond where he could distinguish these he could tell the location of many oil wells by the puffs of steam, which made white flecks on the dark background. He gave three cheers for the new derrick, in which Fred joined from below, and then went down. How would his mother feel if she had known what he was doing!

Fred wanted to go up also; but his uncle, thinking he was too small for such a venture, told him that he might buy a flag the next time he went to Titusville, and hoist it at the top of the derrick, and then he could claim the only American flag on that tract. Fred did this the very next day. One of the men put at the peak a slender flag-staff for him, and the stars and stripes made a fine appearance, Fred thought. "I am Columbus!" cried he; "and I have taken possession of this oil country, and raised the American flag in the name of the Continental Congress." Fred's history was a little out of joint, but he was as enthusiastic as a man who discovers a new country and *makes* history.

The boys then went with a gang of men into the woods to cut timber. They felled several large trees. First they hewed a stick fifteen inches square, and cut it off thirteen feet long; and cut a tenon on one end. This, the men said, was the samson-post. Fred thought it was strong enough to be called "Samson."

Then they hewed out two more large timbers, and cut them fourteen feet long. These they fitted together like a cross, and cut a mortise in the centre where the sticks crossed. These were the bed-timbers for the samson-post, and the mortise was to receive the tenon of it. All these were hauled to the derrick. The cross-timbers were firmly bedded in the ground by digging, and the samson-post set up in the mortise. Strong braces were set up from each end of the bed-timbers to the top of the post, and spiked there. All this made the post very firm.

"Now," said Mr. Bowers, the foreman of the work, "we must cut a walking-beam."

Fred thought he meant a cane, and asked his uncle where they were going, that they needed walking-sticks.

Uncle Charley said the right name of the stick was "*working-beam*." This was hewed out twenty-four feet long, ten by sixteen inches in size at the middle, and tapering out to eight inches square at either end.

Now they bolted an iron to the top of the samson-post, and on the middle of the walking-beam another iron to fit into it. Then, with all the help they could get, they raised the beam up to the top of the samson-post, and balanced it there, by fitting the irons together so it would rock easily. The post and working-beam were so placed that one end of the beam was in the derrick, over its centre the spot where the well must be.

"O, what a splendid teeter!" cried Fred. And he and Arthur climbed up the braces of the samson-post to the top of the working-beam, "hitched" along to the ends, and "see-sawed" a long time.

While all this work (and play) had been going on, teams had hauled the steam-engine and other machinery from the railroad up to the derrick.

"Now," said Mr. Bowers, "we'll put up the bull-wheel."

The bull-wheel had been brought, ready-made, from Titusville. It is a turned shaft of wood, eight inches in diameter, and eight feet long, with a six-foot wheel set on near each end. The spokes of the wheels were left uncovered at the end, so that the men could take hold to turn the shaft, as a pilot does the wheel by which he steers a boat. The sides of the wheels facing each other were boarded up smoothly, so that the arms would not catch the rope while winding it on the shaft between the wheels. On the outside of one of the wheels was fastened a large grooved pulley; this was to receive a rope-belt from the engine to drive the bull-wheel. The men hung the bull-wheel by iron journals, or gudgeons, in each end of its shaft, so it would turn freely. It was placed in a frame between the legs of the derrick, at the side opposite to the working-beam.

Arthur and Fred set to work to wind the drill-rope on the bull-wheel shaft. As this was a heavy cable, one and a half inches in diameter and several hundred feet long, it took the boys a long time to coil it on the shaft; but they persevered, and finally got it nicely wound. They called it their kite-line and spool, and tried to guess how large a kite the cable would hold.

The next thing was the band-wheel. This is set in a strong frame, called the jack-frame, and placed so that one end of the band-wheel shaft comes directly under one end of the working-beam — that end which is out of the derrick. The band-wheel is six feet in diameter, and has a six-inch face, on which is to be placed the driving-belt of the engine. On one side of the wheel is a grooved pulley, like that

on the bull-wheel, on which the rope-belt is to be run. On one end of the band-wheel shaft is a crank, which is to be connected with the end of the working-beam above by a pitman; when the crank turns and the pitman is on, it will work the beam up and down.

On the side of the band-wheel farthest from the derrick they set up the sand-pump reel. As this reel is to wind a smaller rope on, it is made smaller than the bull-wheel shaft. The sand-pump reel is turned by a friction-pulley on one end of it. The pulley can be moved in its frame, and made to bear against the face of the band-wheel at a point where the driving-belt does not touch the face of the wheel. The frame of the reel is moved by a lever in the derrick, so as to force the friction-pulley against the band-wheel, or take it off and stop the reel, at the pleasure of the man in the derrick. As the friction-pulley is much smaller than the band-wheel, the sand-pump reel turns very fast when the friction-pulley is "in gear."

After the reel was up the boys threw it "out of gear" by the lever in the derrick, and then they reeled the sand-pump rope on.

The engine and boiler were now put in place, a few feet from the band-wheel; a belt was put on from the driving-wheel of the engine to the band-wheel, and they were ready to "run." When the friction-pulley was forced against the band-wheel the sand-pump reel would turn. When the pitman was put on the crank of the band-wheel the working-beam would rock on the samson-post. When the rope-belt was put on the band-wheel the bull-wheel would turn and wind up the drill-rope. Thus the band-wheel could be used in three ways.

An engine-house was now built over the engine, and a little shed over the band-wheel and band to protect them. In the engine-house they also put up a blacksmith's forge, where they could mend their tools, sharpen the drills, &c.

In the derrick they built a shed to shield the men from the weather, and from the mud, water, and oil, which would drip from the ropes and tools when drawn out of the well.

The first step in sinking the well, the boys learned, is to drive pipe. As far down as there is only earth or small stones, and until solid rock is met, iron pipe can be driven without drilling. To drive this pipe, the workmen set up in the centre of the derrick two strong plank slide-ways, twenty feet high, fifteen inches apart, taking care to make them perfectly perpendicular, and fasten them securely. Between these

they hung a heavy pile-driver. The loose end of the drill-rope was now carried up to the top of the derrick, passed through the big pulley, and down to the battering-ram between the slide-ways.

The *drive-pipe* is cast-iron, six inches inside diameter, and of various lengths, the walls or shell of the cylinder being about an inch thick. Fred said a piece would make a good cannon, if one end could be plugged up and a vent made. Arthur thought it looked like Lord Rosse's telescope; as neither of the boys had ever seen a big telescope, they agreed that the pipe *did* look like one.

The end of the pipe first started into the ground is shod with steel, that it may better force its way; and the upper end is protected by a driving-cap, so that the pipe may not be battered or broken in driving.

The first length of pipe was now set up between the slide-ways, and the belt-rope run on the bull-wheel. The heavy ram was thus drawn up to the slide-ways, where a "stop" knocked the rope loose from the ram, and it fell, with a powerful blow, on the top of the drive-pipe. By repeating this process, the pipe was forced downward.

"Do you care if it don't go down straight?" asked Arthur.

Mr. Bowers, who is a Yankee, answered, "Well, I rather guess I *do*. If it leans the least bit, I must straighten it up; or if I can't do that, I should have to pull it all up, and start in a new place. If it isn't "plumb," we can't get the drilling-tools through; or if they went through, they would keep sticking. I must keep testing the uprightness of the pipe with this spirit-level."

"If you strike a stone, then what will you do?" asked Fred.

"If it is a small stone, the pipe will crowd it aside into the earth. If it is large, we shall have to drill a hole through it for the pipe. If the pipe strikes the edge or shelving side of a boulder, the pipe may be forced aside, or even broken — though I must keep watch for that."



DRIVE-PIPE.

"How can you tell when it strikes a stone?"

"O, I can tell by the sound of the blows. I can tell about how large the stone is. We shall soon be down to the bed-rock; and if you listen, you can tell when we strike it."

"What is the bed-rock?" asked Arthur.

"Should think rocks would make a pretty hard bed," interrupted Fred.

"The bed-rock," answered the miner, "is the first rock we come to."

"And how can you tell how near you are to the rock?" asked Arthur.

"Because we have driven nineteen feet of pipe, and none of the wells around here drive more than twenty-four feet," answered Mr. Bowers. "In some places they drive seventy-five or one hundred feet of pipe."

After a little while the boys noticed the report of the ram changed from a dull, heavy sound to a sharper, ringing blow.

"Ah!" cried Arthur, "there is the bed-rock."

"Yes; stop driving!" shouted Fred, as promptly as if he were foreman.

And the driving was immediately stopped, as Fred ordered.

"Arthur," said Mr. Bowers, "can you write?"

"Ho!" said Arthur, quite indignantly; "I should think I ought to. Fred can write, and he is only a little boy."

Fred looked up at Arthur to see if Arthur really was so much bigger than himself as his talk indicated.

"Can you keep books?" continued Mr. Bowers.

"Yes, sir; I have studied book-keeping."

"Well, we'll appoint you book-keeper. In the box in the shanty is a blank book. On the page

where I have set down the date on which we commenced to drive pipe, you may set down the date of this day that we struck bed-rock, and the number of feet of pipe."

Arthur did so; and he kept a complete record of each step of the work, describing the kind of rock they met, and the depth at which they found anything peculiar. The pipe being down to the rock, the ram was taken down, and the slides torn away. The earth was now cleaned out of the pipe, and the drilling-tools brought in. At first the hole was not deep enough to take in all the tools, but they soon drilled, with part of them, deep enough to admit all; then the work proceeded faster.

First, a forked iron, called the *Rope-Socket*, was fastened over and around the end of the drill-rope. The rope-socket had a thread cut on the lower end. On this was screwed a ponderous iron bar two and a half inches in diameter and eight feet in length, called the *Sinker-Bar*. (See preceding column.)

"Now bring on the jars," said the foreman.

Fred immediately thought of his mother's preserves, and anticipated something nice to eat. Instead of that, the men screwed on at the bottom of the sinker-bar a heavy machine that looked like two loops or links out of an immense chain. They were forged of two inch square steel; the slit in the loops was about two feet long and two inches wide. They were interlocked, as in a chain, and on the free end of each was the necessary thread for screwing into the other tools.

On the lower end of the jars, as they hung by the rope, was screwed the greatest piece yet. It is twenty-two feet long, and of the same thickness as the sinker-bar. It needed a good many men to carry it. They call it the *Auger-Stem*.

"Now," said Mr. Bowers, "we'll put on the *Centre-Bit*, and down she goes."

The *Bit* is three feet long, flattened and made sharp and hard at the end.

The boys called the tools over in their order: Rope-



socket, Sinker-bar, Jars, Auger-Stem, and Centre-bit. When they were all on, they reached from the floor of the derrick to the pulley at the top. Each joint was screwed very tight with two monstrous wrenches, so that they might not work apart in the well.

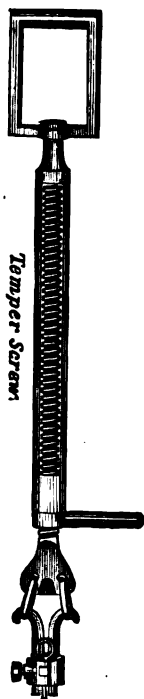
"Why are they made so long?" asked Fred.

"To get weight to force the bit down. We can't have them any thicker than two and a half inches, and so we get the weight in the length."

"How much do they weigh?"

"About fifteen hundred pounds."

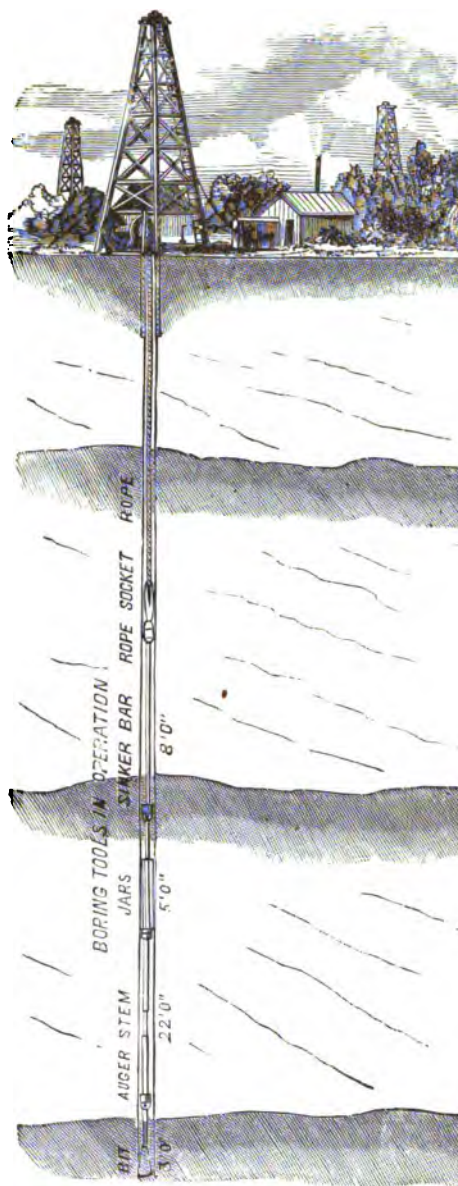
A very curious machine was now attached by a simple rod to the end of the working-beam over the well. It is called a *Temper-Screw*. It had a square loop to fit over the end of the working-beam. A screw three feet long worked in a thin iron frame, through a nut at the bottom of the frame; the screw is turned in the frame, and thus raised or lowered, by means of a handle in the head of it. Hanging from the head of the screw were two links and a clamp, operated by a set-screw, by which the temper-screw could be securely clamped and fastened on the drill-rope at any place.



The boys quickly saw how all this was operated. The lever that held the bull-wheel stationary was raised, and the drilling tools began to descend rapidly into the well, uncoiling the cable very fast; one of the men held a brake hard against the face of the bull-

wheel to regulate the speed. When all the tools had passed down, so that the bit was near the bottom of the well, the bull-wheel was stopped by means of the brake, and the temper-screw clamps fastened to the cable. Now the tools hung on the temper-screw and working-beam, instead of on the bull-wheel; considerable slack of the cable was pulled down, and coiled upon the floor, and left hanging below the temper-screw.

As soon as the engine was set in motion, the working-beam began to rock and work the tools up and down in the tube about thirty times a minute, notwithstanding they weighed nearly a ton. One of the workmen



BORING FOR OIL.

climbed up on a tall stool to regulate the drill.

"Is it boring now?" asked Arthur.

"No; the bit doesn't cut the rock, but I will soon make it strike;" and he commenced to lower the tools by turning down the temper-screw.

"Now it strikes," said he, presently. But he still kept turning down the temper-screw.

"Then why do you turn it down any more?" asked Arthur, anxiously.

"So the jars will work," he replied; "I must have slack enough so the upper jar will slide down about six inches into the lower one; then on the upward motion the jars come together with a heavy blow. This starts the drill loose. It would wedge in every time, if it was not knocked loose by the blow of the jars. No power could be relied on to draw it out by steady pulling."

"O," cried Fred, clapping his hands; "now I see; you call them jars because they *jar* the tools loose."

"Exactly," replied the driller; "and I can make it jar as much or as little as I please with the temper-screw."

"Ah," said Arthur, briskly; "don't you see, Freddy, they call it a temper-screw because it *tempers* the stroke of the drill going down, and the stroke of the jars coming up."

"I can feel the jar on the rope, and know how much jar I have on," said the driller.

The boys put their hands on the rope, and could feel distinctly the concussion of the jars in the well. They could also feel it on the other end of the working-beam by laying their hands on the pitman.

The driller kept turning the drill-ropes so the bit would not strike twice in the same place, and thus worked the hole out nearly round. As fast as the well deepened he lowered the drill, keeping the same amount of jar.

There was water in the well several feet deep, which kept the drill cool as it worked.

"I know what that is for," said Arthur; "so the drill will not heat, lose its temper, and get soft."

"Drills are like boys," said uncle Charley; "they are not good for much if they lose their temper."

The bit having now worked its way into the rock the length of the temper-screw, it had to stop. The temper-screw clamp taken

was set in motion again, and the tools drawn out of the well. They were left hanging on the drill-rope, being drawn one side, out of the way, by a cord tied to the side of the derrick.

"Now for the sand-pump to bring up the chips," said Mr. Bowers.

The *Sand-Pump* is a cylinder, usually made of galvanized iron, three inches inside diameter and eight feet long, with a valve at the lower end and a bale at the upper end. This bale was hung on a hook tied to the end of the smaller rope, which went over a pulley at the top of the derrick, and coiled around the sand-pump reel.

As the sand-pump descended in the well the rope uncoiled very fast. When it reached bottom, one of the men took hold of the rope, and churned it up and down, to fill it with chips through the valve in the bottom of the pump.

Arthur now took hold of the lever that moved the reel, and brought the friction-pulley up hard against the bull-wheel. The reel commenced to re-wind the rope, and the sand-pump quickly came up — not full of "chips" of wood, as Fred had expected — but of water thick with mud and sand, made of pulverized rock. It was sent down again and again, until the mud was all out.

Then the centre-bit was taken off the auger-stem, and a reamer screwed on in place of it. The cutting end of the reamer is round, with two notches in it like teeth. This is to smooth off and round the irregular hole left by the bit.

The reamer was worked as the bit had been until it had finished off the well as far down as the bit had cut. Then the sand-pump took out the chips of the reamer, and they were ready to make another advance downward with the bit.

So they went on, drilling and sand-pumping, never stopping, night or day — unless something was wrong with the machinery. Three times the tools got "stuck" in the rock, and once the drill-rope broke, and left the tools in the well.

One day Mr. Bowers came out of the derrick, and said, "We have got to go fishing."

"O, goodey!" cried Fred; "I speak to go."

He soon found they had got to fish the tools out of the well. They did this with an iron that had strong barbs or teeth on it, to run down beside the rope-socket in the well, and hook over it, and thus bring it up, with the tools after it. At one time they fastened to one piece, and unscrewed it and brought it up; then they ran an extra pair of jars down, screwed on the top of the sinker-bar, and then



Sand Pump

jarred all the tools loose, and brought them up. Little stones got loose, rattled down, and wedged in between the tools and the rock, and this was one cause of the stoppage. Sometimes, the boys were told, men work for weeks, and then can't get the tools out, and have to abandon the well, and lose all they have done, and their tools besides.

Arthur wrote down the number of feet they drilled each day. Sometimes it would be twenty-five or thirty feet in twenty-four hours. When they got down three hundred and twenty-five feet, they struck the first sand-rock. This was white, and very hard, so that they progressed only six or eight feet in a day. But this was only nine feet thick, so that they were soon through it, and in the softer shale-rock again.

Occasionally the tools had to be sharpened and tempered over again.

Another thing that Arthur learned was how to regulate the engine. He soon was able to start or stop it by turning the throttle-valve; he could tell when the water was right in the boiler by the try-cocks, and knew when there was steam enough by the steam-gauge. Arthur got so familiar with these things that he proposed to the engineer to take the whole charge of the engine, and let the engineer have only the fires to attend to. To this the engineer gravely assented, and Arthur was installed on a stool, where he could reach the throttle-valve.

Fred knew how to make paper windmills. He made a large number, and fastened them all along the working-beam. The motion of the beam made wind enough to drive the mills. Fred's flag and windmills gave the "rig" quite a fantastic appearance; everybody noticed them, and soon began to call that the "Flag-and-Windmill Well," and this was the name it was known by ever afterwards.

Fred and Arthur made themselves so useful, and became such favorites with the men, that one day Mr. Bowers told uncle Charley that he thought the boys ought to be given an interest in the well. Uncle Charley smiled, and said, "Well, I will give Arthur the first ten and Fred the second ten barrels over each five hundred per day." At this the men all laughed; as no well on that tract had yet gone over one hundred and fifty barrels, they thought uncle Charley's offer rather a joke on the boys. One of the men asked Fred how much he would take for a sixteenth of his interest. It proved something better than a joke, however, in the end.

One day, after they had gone below the first

sand-rock, the boys saw bubbles floating on the water, and mud emptied from the sand-pump. "Hallo!" cried Fred; "have you struck soap-suds?"

The men said they had often heard of soap-mines, but never saw anything nearer it than soap-stone in a well, and added that the bubbles were gas from oil veins.

Mr. Bowers asked if they saw anything else on the water. Fred said he saw some green paint.

"That is oil," said Mr. Bowers.

"Hurrah! we've struck oil!" shouted the boys; and, without waiting to hear more, they rushed away to tell the operators at the neighboring wells, some of whom had repeatedly declared that the "Flag-and-Windmill Well" would never produce anything *but* flags and windmills — not even gas enough to blow them.

Some of these men tried to buy the boys' interest in the oil they were crowing over, but the boys positively declined to name a price.

They soon found, however, that all gas and oil found above the "third sand" does not amount to anything, and only constitutes what oil-men call "a show."

At the depth of five hundred and thirty feet they struck the second sand, ten feet thick, and then the pump came up nearly full of oil.

When they had gone down six hundred and fifty feet they reached the third sand. This rock consists of many little white pebbles, from a very small size to as large as a pea. Fred said these pebbles, mixed with the dark oil, looked like pea-nut candy. The rock was very hard, which the men said indicated that good oil would be found there, if any. The drill went down slowly; gas puffed and whistled in the well, and the sand-pump brought out more and more stronger "shows" every time. Uncle Charley and their father were there all the time now, night and day, and drillers were constantly coming from other wells to see what encouragement there was for *them*.

Uncle Charley directed the men to keep their lanterns at a distance from the hole, and ordered pails of water to be constantly standing in the engine-house.

"What is that for?" the boys asked.

"So the gas shall not take fire," said their uncle. "Sometimes the drill opens a cavern filled with gas and oil, and they rush up suddenly; if the gas takes fire, and the oil catches, there is no stopping it. A few years ago a well commenced to spout, and the gas spread so that it took fire from the fire-box of an

engine one hundred and fifty feet distant, before the men could run there to put the fire out. The gas and oil filled the air so suddenly with flames that thirty men were burned to death. It was several days before the fire could be put out. On the Alleghany there is a well which has been burning six or seven years; it lights up all the country round."

Slowly they worked through the third sand. Fifteen, twenty, twenty-five, thirty, thirty-five, thirty-six, thirty-seven feet, Arthur had put down in his "log-book." He was writing this when he heard Mr. Bowers shout, —

"*She don't jar! She's struck!*"

Arthur ran into the derrick. The drill rose and fell without striking bottom. It was playing in a cavity. The men instantly ran to put out the fire under the boiler; all pipes and cigars were ordered out. A noise came from the well like wind rushing through a knot-hole.

The news of the strike had spread, and hundreds of excited men were hurrying to the "Flag-and-Windmill Well." Fred and Arthur climbed a little way up the ladder of the derrick to see. A good many men also stood on the cross-pieces and braces of the derrick, to get a better view at the critical moment when the tools should be drawn.

"Have you got steam enough left to raise the tools?" shouted Mr. Bowers.

"I guess so," responded the engineer.

But they didn't need the steam, for the bull-wheel had but fairly commenced to wind the tools up, when the cable suddenly ran slack, and the bull-wheel, relieved of the weight of the tools, spun round like a top.

Uncle Charley, pale with excitement, cried, loudly, "Look out, look out, men! The tools are coming up alone."

The men all ran out of the derrick; the boys jumped off the ladder, and ran with them.

They had hardly got down before the tools shot up out of the well, as if discharged from a mortar, sending the pulley-wheel spinning high above the derrick top. A loud report, like that of a columbiad, followed, with a concussion which shook the ground as if by an earthquake, and knocked some of the nearest men prostrate.

A stream of water, gas, and oil, the full size of the hole, spouted up nearly to the top of the derrick, with a roar louder than steam from the 'scape-pipe of a steamer. The roof of the shed was blown away, the boards flying like leaves in a gale.

Men ran quickly to put out the fires at all

the wells and shanties near. Oil and water were now running down the hill-side in little torrents. Other men began with shovels to throw up a dam to stop the oil. The roar of the well and the shouts of the men made great confusion.

In the midst of all this excitement, and phenomena of nature, Arthur and Fred, boy-like, were perfectly cool. Arthur crowded his way forward to where his uncle was working as if for dear life, under a fountain of water and oil, and, after much effort, succeeded in attracting his attention. And this was what he shouted: —

"Uncle Charley, uncle Charley! Will you tell us as soon as *your* five hundred barrels have got out, 'cause Fred and I want to build a dam to catch *our* oil!"

The men all laughed at Arthur's promptness to look after his interest, and said, "That boy will make a great 'operator' one of these days."

"I guess your interest will be good for something, after all," said Mr. Bowers; "for the Flag-and-Windmill Well is good for *one thousand barrels a day, at least.*"

"Then we'll get twenty barrels apiece each day," said Arthur to Fred. "Ain't you glad we dug the well now. Fred?"



PART II.

BOATING OIL.—"POND FRESHETS."



THE owners of the Flag-and-Windmill Well found that, great as had been their labor, expense, and anxiety in finding the oil, their greatest task was yet to come. They had secured the coveted treasure in such prodigious quantities, and so unexpectedly, that, like the man who bought an elephant, they did not know how to provide for it. There it was; a roaring, foaming fountain, spouting, like a wounded whale, fifty feet high, filling the air with yellow spray, breaking into many colors, and forming wonderful rainbows in the sun, and deluging acres with oily wealth; and no means at hand to secure it. Their troubles were similar to those of the old woman who lived in the shoe; they had so much oil they "didn't know what to do."

The dams which they began to throw up, to stop its running away down the mountain, saved but a part of it; hundreds of barrels ran to waste. Part of that which poured in little torrents down the steep hill was lost entirely. Some of it men and boys caught in little dams before it reached the creek, and dipped up into barrels, which they brought for that purpose. In this way they earned, or gained, from ten to forty dollars a day each.

Nearly all the oil produced by the Flag-and-Windmill Well for several days would have been lost but for the kindness of the owners of small wells near it. They offered uncle Charley the use of their oil tanks until he could construct tanks of his own. The boys learned that, although oil operators are very eager in pursuit of wealth, and most of them seem to be pretty rough men, yet they were at heart kind and generous towards others, as this offer to uncle Charley proved.

Uncle Charley gratefully accepted the use of the tanks for a day or two. His men laid lines of iron pipe — of which they had a large supply, provided beforehand — from the little pond of oil around the well to two or three of the nearest tanks. As soon as this was done, and the storage for part of the oil temporarily provided, uncle Charley, with men and teams, started after tanks of his own. They went to a tract not far off, where there were several wells that had ceased to yield oil, and been abandoned, with their "rigs," engines, tanks, &c. Uncle Charley bought five of these aban-

doned tanks, very cheap. Such tanks are built of wooden staves, like a tub, with immense iron hoops; some of them are fifteen feet high, and thirty feet across; others are smaller, and some even larger,

The men knocked the hoops off, took down the staves and bottom-boards, and loaded all on the wagons. By working that day and all night, they got the tanks all removed, and set up again near the Flag-and-Windmill Well, ready for use at daylight next morning. Thus they had to use the borrowed tanks only one day and one night.

While this was going on, uncle Charley had sent Arthur (whom he had found he could trust with important business) to Titusville to order some more pipe, stop-cocks, a "goose-neck," and other things needed at the well. When Fred heard the directions given to Arthur, he made the same mistake as when he first heard the drillers talk about jars; he concluded the "goose-neck" was something good to eat. Going quietly around to uncle Charley's side, he asked, "Can't Arthur just as well get *turkey*? I like that better than goose."

Uncle Charley was not too busy to laugh at this, although he *was* too busy to explain the difference. When Arthur returned at night with the goose-neck, Fred thought, more than ever, that he preferred turkey; for the goose-neck was only a crooked piece, or elbow, of large iron pipe. This was to be screwed on the top of the drive-pipe in the well, and thus cause the stream of oil to turn aside into the tank.

But how to put it on was the question. The rats had no trouble to get a bell; they were only puzzled to get it put on the cat's neck. The goose-neck could not have been very well put on during the first two days, while the powerful jet was spouting. The men at first tried to stop the stream entirely; that is, to hold the cat still while the bell was being put on. They tried to do it in this way: they took down the ponderous working-beam, and as many men as could take hold of it at the ends threw it over the mouth of the well, and tried to hold it there. The oil and water spirted and sprayed a hundred feet out each side, making the crowd of spectators scatter as the boys had seen a crowd do at home, when the firemen in sport would turn on it a stream from the fire-engine. The working-beam, heavy as it was, was sent flying like a chip, in spite of the efforts of twenty men to hold it down on the well; and the men themselves were hurled in every direction, as if they were mere insects. They crept out of the deluge of oil and water, looking like so many mice who had fallen into a kettle of

grease. That way of belling the cat wasn't a success, except as an amusement to the lookers on.

After two or three days, however, the well seemed to abate its fury somewhat. Then it began to put on another curious appearance. It gradually changed from a steady flow to an interrupted, spasmodic action. For a few moments it would spout with as great fury as ever; then it would gradually sink away; then, after a few moments of subsidence, increase in violence again.

When the boys first noticed this, they became alarmed for their oil interests, thinking the well "was going to *die*," as Fred expressed it. But when they saw it each time revive, and show as much energy as ever, they became reassured as to its vitality.

These periods of subsidence became more marked each time, until, in its quieter moments, the well spouted no higher than a man's head. In one of these sleepy moments of the spouting monster they succeeded in screwing on the goose-neck, and attaching the pipe to it and the tanks. Now they had the monster under control.

In about five minutes the well commenced to rage again; and, as if angered at being conquered, it seemed to spout with greater fury than ever. It roared and foamed in the tank, shaking the tub, and making the ground tremble in its violence; the contents of the tub were stirred and churned until it was nearly filled with yellow foam.

Fred exercised his inclination for comparisons by calling the tank "the giant's cup of soda-water," imagining the well to be the giant, and himself the little Jack-of-the-beanstalk who had chained it. One of the men said it "looked more like all Dutchland's mug of lager bier." Each one used the figure he was most familiar with.

Their troubles and labors were not ended with the completion of the tanks. A well pouring out a thousand barrels a day would soon fill all the tanks in the neighborhood, and then they would be in the same old-woman-in-the-shoe fix again. They must begin immediately to empty the tanks.

The tanks were connected by pipes, so that when one was full it would overflow into another. Near the bottom of each tank was a faucet, by which the water could be drawn out from under the oil, leaving only the latter in the tank. The boys saw that the different gravity of the two fluids made the process of separating them, — which they had anticipated would be a very difficult one, — after all, very simple.



TOWING UP THE EMPTY BOATS.

Uncle Charley decided that the quickest way to get the oil off their hands and into market was by running it into boats in the creek, and sending it to Oil City, on the Alleghany River, at the mouth of Oil Creek. There were plenty of men there ready to buy the oil for shipment down the river to Pittsburg. At that time the railroad, so far as completed, was too far off, at its nearest point, to afford a quick and easy outlet to market.

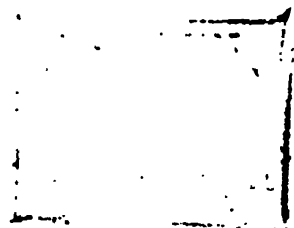
Oil Creek is a broad, shallow stream. At its ordinary stage, flat-boats and barges, of light draught, can be towed up against its current by horses walking in the middle of the stream. It was severe labor, and working in the water soon took the hair off the poor animals' legs, and in a very short time killed them.

Uncle Charley and the boys went down to the creek to hire two boats to load with their oil — for Arthur and Fred were keeping close watch on *their* interest in the product of the well. They soon found two large, flat-bottomed boats, and hired them. The owner said he'd carry their oil to Oil City "for fifty cents — owner's risk." This, Arthur explained to Fred, meant he'd make the trip for as much as fifty cents a barrel would come to; but, if the oil got lost, the boatman would not be responsible; it would be their loss, and they would have to pay for the use of the boats just the same as if the oil were delivered safely. Fred didn't like this bargain, and insisted that the boatman should get nothing if he didn't carry the oil through all right. The boatman said, "Very well, my little man; pay me *seventy-five* cents per barrel, and I'll guarantee delivery."

"What do you say, boys?" asked uncle Charley. "Shall we pay twenty-five cents



POND FRESHET,—JAM AT MOUTH OF OIL CREEK.



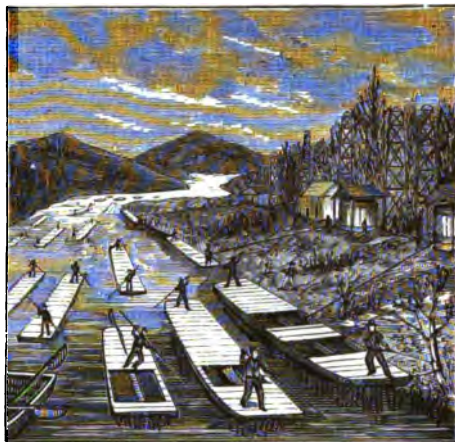
more on the barrel, or run our own risk, and save that much if we get through all right. Remember that the extra price does not insure us against loss of oil. If we agree to pay seventy-five cents, and the oil is lost, we shall have no freight-bill to pay; the boatman will lose his trip, and we'll lose our oil only. He charges the twenty-five cents extra for running that risk."

As the three proprietors of the oil did not agree as to the best plan of shipping, they adopted *both* ways. On one boat they agreed to pay fifty cents a barrel, whether it went through safely or not; on the other boat they agreed to pay seventy-five cents a barrel if it went through, or nothing if it was wrecked.

The boats were towed up to a point on the creek opposite the Flag-and-Windmill Well, and moored by strong cables to the bank. The boats were about one hundred feet long, eighteen feet wide, and twenty inches deep. The ends were square. The space in them was divided into compartments, and covered over tight with boards. It was thus divided up, the boys learned, so that the oil would carry more steadily. If the oil were put in one mass into the broad, shallow boat, it would get to swaying and rolling, and finally upset the boat—the same mishap they had often experienced on a smaller scale when trying to carry a shallow dish of water or other liquid.

The boys learned that flat-boats are built on the streams that form the headwaters of the Alleghany, where lumber is plenty. They are loaded with shingles, furniture, and other merchandise, and floated down on high water, to be sold along the river. When empty they are used as oil boats. These two were built away up in "York State," near Chatauqua Lake, almost up to Lake Erie. Arthur had learned that the waters of the Alleghany, which finally empty into the Gulf of Mexico, start near the same point where the waters spring which go into Lake Erie and thence empty into the Gulf of St. Lawrence; that only a narrow ridge at first divides the drops of water, which in the end reach the ocean so many thousand miles apart.

As the land on which the Flag-and-Windmill Well was sunk was *leased*, not purchased, by uncle Charley, the oil did not all belong to him and the boys. The owner of the farm was entitled to one half of all the oil as his share for the use of the land. This is called the owner's "royalty." This term, their father told them, came from the tax put upon all lands, mines, &c., in countries ruled by



FILLING THE BOATS.

royal governors; they claim to own all the land, and charge for the use of it. This charge or tax was called the right of royalty, or the king's share. In this country each land-owner is king of his own estate, and *he* has the right of royalty in the land.

The owner of this farm decided to send his share, or royalty, of the oil to market at the same time; so that three boats were loaded from uncle Charley's tanks. The loading was done by screwing iron pipe to the faucets in the tanks, and extending the pipe down to the boats; when the faucets were opened the boats were very quickly loaded.

Now the boys were impatient to see the teams hitched on and the boats start. They were, as usual, too fast. The boatman told them there was not enough water in the creek to float the loaded boats down.

"Sure enough the boats are aground now! How are we going to get off?" inquired Arthur, anxiously.

"Wait for a pond freshet," replied the boatman.

"A *pond freshet*? What is that? When is it coming? Where is it coming from?"

These questions were all asked at once, by both of the boys together, without giving the boatman time to answer one of them.

In answer they learned that in low water an artificial rise of the stream was secured by hiring the mill-owners above to let the water out of their dams. The upper dams on Oil Creek, and the smaller streams which empty into it, were first let off, and all the water in them collected in the last and largest dam. Then, at a given hour, the "slash-boards" of the big dam are cut, and the accumulated flood let out all at once. On this flood all the boats loaded



STARTING WITH THE "FRESHET."

with oil along the creek floated down to Oil City. At the same time the owners of the mills would float their lumber down to market. Sometimes a thousand craft went down on a single "pond fresh."

"When is the next pond fresh coming?" the boys asked, after listening eagerly to this account.

"In a day or two. We usually have two a week," was the reply.

It was so. That very day, the man who superintended the pond freshets came along the creek to give notice that the lower dam would be cut at ten o'clock the next forenoon. He also collected some money from the boat-owners to help pay the cost of buying the water of the mill-owners.

"Now," said uncle Charley, "do you boys want to ride down to Oil City on horses, and see the fleet of boats and rafts come in? Or do you prefer to ride down on the boats with the freshet? There is a good deal of excitement and considerable danger in making the voyage."

This last consideration decided the boys immediately in favor of going by boat; the "danger" was the very thing they had the greatest curiosity to see. It was finally arranged that Arthur and his father should go down by the boat, and Fred and his uncle go down by land. Uncle Charley told his brother how to manage with Arthur in case of a smash-up.

There were always plenty of chances to jump on the other boats, which filled the creek at such times.

Early next day the boats were made ready for the flood. The covers to the oil-bunks were fastened down. The huge steering oars, forty feet long, were hung on their pins at each end of the boats; they projected out before and behind, like long wings. Besides the oars, there were long setting-poles to push the boat along with in deep, still water, and hand-spikes to pry off the boat when it sticks fast, to do which the men had to jump into the stream to work.

All was ready before ten. Two men stood at each oar; the pilot stood near the stern, and Arthur and his father sat on two oil-barrels, near the centre of the boat—all waiting the coming flood. Work had been suspended at all wells on the creek, and the oil operators and the people from the country around came down to witness the exciting scenes. Pond-fresh-days were general holidays; in fact, almost the only play-days the busy oil men had. The bank was lined with spectators all along the creek.

Ten o'clock had passed by but a few moments when a low, distant murmur was heard, like the subdued roar of a far-off railway train.

"She's coming!" said the pilot. "Some of you men on the shore there stand by to cast off our cables."



THE COLLISION.

They untied the cables from the trees, and a man stood holding an end of each, still keeping it wound around the tree.

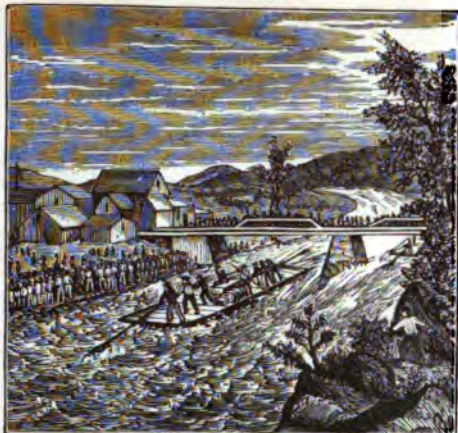
The roar of the coming flood increased rapidly, and soon shouts were heard from the people up the creek. Then Arthur saw what looked like a wall of water as high as a man's head, filling the channel from bank to bank, roaring like a cataract, white with foam, and rushing rapidly. Its crest was covered with boards, sticks, slabs, oyster-kegs, old barrels, and all the litter of saw-mills, oil-diggings, and oil-towns up the creek, including the carcasses of horses killed by hard usage. Back of these they could see the glitter of the sweeping oars of the boats and rafts, already riding the wave; and, above the roar of rushing waters, they could hear the shouts of the pilots, and the yells of the excited spectators.

Arthur never will forget the scene at the moment when the wave seemed to be coming down on their heads. His heart first stood still, then filled his throat with a choking sensation. But, in fact, the wave was not nearly as large as it looked, and the real danger was not of its overwhelming them. When it reached the boats it lifted them like chips. As the stern climbed the wave first, the bow dipped low, sinking the forward oarsmen to their knees in water. When the flood was fairly under them, the pilot cried, "*Cast off!*" The cables were let go, and the oarsmen

pulled the boat out from the banks. In working the oars they walked entirely across the boat, pushing the stem of the oar before them, raised so that the blade would dip; then they would run back quickly, carrying the stem near the deck, and the blade out of water.

They were now shooting rapidly down with the fleet. Other boats pulled out and joined them every minute. Constant care was necessary to keep the boats from "fouling" with each other. Where there was a bend in the channel the oarsmen had to "pull lively" to keep off the outside bank of the curve. The mountains along shore echoed with the orders of the pilots and the shouts of spectators.

When about a mile below the Flag-and-Windmill Well, a row of large boats, of which Arthur's was one, had moved up abreast, filling the channel completely full. This was well enough for *them*, but it proved bad for another row of boats tied along the bank below, waiting to start. The moving boat next the shore was bearing directly down on these stationary boats. Its pilot, seeing the danger, shouted, "*Left! Left, all! Give away, lively!*" and himself ran to help the forward oarsmen. It was no use. They could not move the whole rank of boats that filled the channel and crowded against this one. It struck the first of the stationary boats with a crash, snapping both its cables like threads, and setting it loose. The men on the loosened boat



SHOOTING THE BRIDGE.

bent to their oars to carry it out far enough to clear the boat moored next below; but in vain. It in turn struck that, and broke it loose, and the two bore down on those below.

The men on the rest of the shore boats now saw that they must go whether they were ready or not; so they all cut their cables, and pulled out.

Meanwhile, the boat that first struck the row, its headway being stopped a little, was caught in the rear by the current, and whirled completely around, end for end. The men on it, when they saw they must swing, pulled with all their power to whirl the boat faster than the current, and thus keep from being swamped by the current taking them sidewise and pouring over the low gunwales of their boat. They succeeded.

Strange as it may seem, none of the boats were wrecked by this collision. But some of the boats farthest down, of those which were compelled to cut loose, were too far in advance of the *full head* of the freshet to be safe. One of these ran along a few rods, and then stuck fast on a bar at the prow; the current turned it sidewise; other boats came crashing down against it; the water instantly poured over its side and sank it to the bottom, and it was demolished and swept away. The men in it sprang into other boats.

The three boats from the Flag-and-Windmill Well were not in this jam. As they passed, Arthur could see a confused mass of timber, the ruins of three or four boats destroyed, barrels, loose oil, &c., scattered on the stream.

The greatest danger for all was yet to come. They were now rapidly approaching the Oil City Bridge, and Arthur knew, by the anxious

faces of the men, that the perilous place was there. He began almost to wish he was ashore. When the bridge came in sight it looked black all over with people; the shores also were crowded. The pilot anxiously scanned the motions of the drift-wood ahead of him, to see on which side of the "centre bent," or middle timbers of the bridge, the current ran strongest; so he could decide which of two channels to take. Presently he said, "I'll take the right-hand shoot."

"Why don't you pull for it, then?" cried Arthur, in great alarm, as he saw the boat headed directly for the timbers of the bridge.

"If we pull too quick she'll swing too far. We want to strike the right-hand current with the boat on the swing, and let the current help us!" exclaimed the pilot.

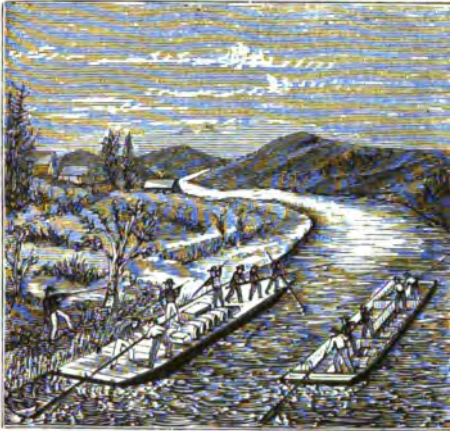
At that moment Arthur spied Fred and uncle Charley on the bridge waving their hats to him. Arthur responded vigorously.

When they were almost to the bridge, and Arthur had given up all hope of the boat clearing the timbers, the pilot suddenly yelled, "*Right!*" The men gave three quick, powerful strokes to the oars; the boat veered slowly to the right, not enough to clear. She will strike! No; the current takes her, and swings her easily over. She just clears the timbers, and shoots, with a rush and a splash, past the big brace and under the bridge, safe and clear!

The crowd cheered loudly, again and again, over this skilful handling of the boat, in which Fred and Arthur joined with all their might.

Arthur looked back, and saw how the boat would have fared if the pilot had steered as *he* wanted him to. The next boat behind them began to pull over too soon. As its head took the right-hand current, the counter current on the other side struck its stern. It began to swing around sidewise, and in one minute it was hurled across the shelving brace of the bridge with a crash! It bent and hung there, high up on the brace, like a pair of saddle-bags, emptying the cargo out into the stream. The crew ran to the middle and clambered up the timbers, and were pulled on the bridge by the people above.

The next boat struck this, and the next, and the next. Some pulled over far enough to escape under the bridge; more went into the jam. Boats and rafts were piled on each other in the wildest confusion. Crash! smash! they came; endwise, sidewise, every way. Water roared and tore over the wrecks. The black, odorous oil was sent flying in every di-



SNUBBING THE BOAT.

rection through the air, and over the people. Thousands and thousands of dollars were sunk and lost in a few moments. An under current speedily formed beneath the wreck, and many of the boats were sucked under, and went completely out of sight.

The men on them made good their escape by the first opportunity. One boat ran partly over a sunken one — stuck, tilted for a minute; then her bow was sucked down so quickly that her stern was jerked in the air, and the men, who had run back, were sent flying, just as the boys shoot up stones by striking one end of a tilted stick on which they are placed. The men landed in the water a few feet distant with a great splash, and swam ashore, sputtering and swearing, amidst the shouts and laughter of the crowd.

The channel was now completely blocked by the wrecks of a dozen boats; and the creek above, from bank to bank, was jammed full of rafts and boats. No more boats got through that day, as the freshet had begun to subside. Most of those in the creek, above the bridge, saved their cargoes, and got off with the next freshet.

The stream, for miles below, was covered with barrels of oil, lumber, oars, poles, fragments of boats, — all floating in the thick flood of oil which covered the stream.*

The boat Arthur was on alone of the three that started together got through. After they passed the bridge the boat was crowded up against the shore to slacken its velocity somewhat. One of the boatmen then jumped ashore with a cable, and made a "running-hitch" around a stump — that is, he wound it

around so that it would slip slowly, holding the end and gradually checking the motion of the boat. This is called "snubbing" a boat.

"I can do that, I guess," said Arthur.

"Guess not, sonny," said an old raftsmen. "You'd probably break the cable or your own leg — perhaps both, and your jolly neck into the bargain."

Arthur thought the boatman very disrespectful. "Sonny!" said Arthur to himself, indignantly; "and I in my teens!"

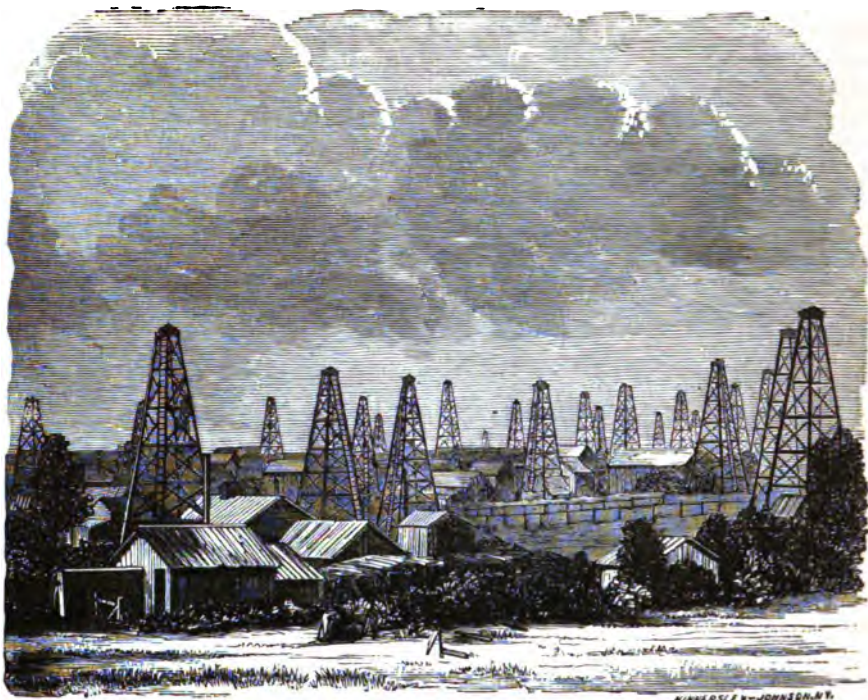
Uncle Charley and Fred were waiting on the bank for them. He told them he had already sold the oil in the boat to one of the numerous oil brokers that assembled at Oil City on pond-freshet days. The other boat was a total loss. It happened that the wrecked cargo was the one taken "at owner's risk," at fifty cents a barrel; and the one that came through was the one whose delivery was insured by the boat-owner at seventy-five cents. So they had to pay freight both on the lost oil and on the other.

After paying all charges, the money left gave the boys thirty dollars each for their shares. They felt exceedingly happy and rich. They had never owned so much money before, "all for their own." Uncle Charley, however, was not so well satisfied, and declared he would never ship any more oil by boats.

The owner of the farm, who had lost *all* of his oil, said the same, and declared that he would immediately put up tankage enough to hold all the oil produced on his farm until it could be shipped by rail.



* By one pond-freshet jam over thirty thousand barrels of oil were estimated to have been lost.



PART III.

UPS AND DOWNS OF THE OIL BUSINESS.

THE owner of the farm on which was the Flag-and-Windmill Well proceeded immediately to carry out the determination he made when his boat and the one belonging to Arthur, Fred, and uncle Charley were lost in the "pond freshet jam," viz., to build tanks to receive all the oil produced by all the wells on his farm, until it could be sold, barrelled, and shipped away profitably and safely.

He contracted with a firm in Titusville to build for him two iron tanks of four thousand barrels capacity each. The iron plates, of which these tanks were built, were rolled out, cut the right size and shape to form the bottom and sides when put together; the pieces for the sides were bent to the proper curve, and all were punched with rivet-holes all around the edges. All this was done at the shops, and so accurately calculated that when the pieces were taken to the farm, and each one fitted to its proper place, they made exactly the right sized and shaped bottom; the curved pieces met in a complete circle of the

right size, and all the rivet-holes came opposite exactly, so that the bolts could be put in and the plates riveted together. Every piece fitted as it should to make an iron tub forty-one feet in diameter and seventeen feet deep.

The boys were amazed to see the confused heap of iron plates go together and gradually build the great tanks. They speedily "scraped an acquaintance" with the greasy machinists, who looked so rough and understood their business so well. They found them to be very intelligent and civil, as well as very clever men, rough as they looked.

When the big tanks were done, all the producing wells on the farm were allowed to lay pipes to them and run their oil in to be stored. For this storage the proprietor of the tanks charged them a small fee per barrel. In time he got enough money back for tankage of other men's oil to repay him the cost of the tanks, which was six thousand five hundred dollars for both tanks. By measuring the depth of the oil before and after each man ran a small tank of oil in, he could compute how much had been delivered to be stored, and was entitled to be taken out again by each person.

Uncle Charley and the boys bought barrels and barrelled their oil as fast as they could

It was only when the Flag-and-Windmill Well got the start of them, and filled their tanks before they could haul it away, that they ran it into the big tanks.

Although the well produced prodigious quantities of oil, they did not get rich very fast. It cost so much to buy barrels, put up the oil, and hire it teamed across the mountain to the railroad, that but little was left for their share of the sales. The teamsters demanded all they could exact for hauling the oil. They calculated just how much the oil would sell for, what it cost to barrel it, and they would take nearly all the remainder, leaving a very little profit for the owners of the oil—for which generosity uncle Charley always thanked them with the most profound gratitude. These expenses "ate up" nearly all the receipts.

Then, the striking of several large wells had increased the supply of oil so largely that the market was overstocked, and the price of oil went down to a very low point. Uncle Charley said if the market kept on downward, he'd soon have to pay some one to take the oil as a gift.

In addition to small profits, their supply began to decrease. The production of the Flag-and-Windmill Well lessened a little every day from the first. Its yield had been largely overrated on the start. It made such a display of power and production, that everybody who saw it gauged its yield too high. It is probable, after the water was all drawn off, it never had yielded more than eight hundred and fifty barrels per day, actual measurement. At the end of two months this had decreased to between five and six hundred barrels per day. The spirits from "Nature's wounded artery" grew less violent and less frequent, as though she were slowly sinking and expiring from loss of much blood. There were now intervals of fifteen or twenty minutes between the spasms of flow, during which the well was entirely quiet.

This falling off alarmed the boys. They asked their uncle if he supposed the well was going to cease flowing altogether.

Uncle Charley said he expected it to, in the course of time; all flowing wells do.

"And what will we do then?" asked both of the young "operators" at once.

"Well," was the reply, "we can pump the well, and make it continue to pay as long as there is any oil left in the veins tapped by it. When that don't pay, we can abandon the Flag-and-Windmill Well, and sink other wells on this lease. Or, we can sell out this lease, and

all we have here, and take the money and quit the business with the little pile we have made; or go somewhere else, make another lease, and try our luck again. Now, which would you like to do?"

"How much can we sell out for?" asked the careful little Yankers.

"Not as much as we could have got two months ago. When we first struck oil, I was offered for our interest in the well—how much do you guess, now?"

The boys had got some new ideas as to the extent of the money operations of the oil country, and thought they could guess pretty near.

"Fifty hundred dollars," said Fred.

"Pooh!" exclaimed Arthur, contemptuously. "I guess fifty *thousand* dollars," going, as he thought, to an extreme price.

Uncle Charley laughed. "I was offered *one million dollars*, and refused."

"Why didn't you sell?" asked Arthur, vainly trying to get some idea of how much a million dollars is.

"Well, I thought I could make more to hold on. And I don't think I'd sell for that now."

"Hem! I would, if I were you," said Fred.

"Would you?" rejoined his uncle. "Well, you and Arthur may sell your interest, if you wish to. You'll find plenty of speculators ready to make you an offer."

The two young "greasers" talked their business over together. Fred said, "How much is our interest worth?"

"If uncle Charley's whole interest, with ours, is worth a million dollars, ours, which is one twenty-fifth of his, must be worth forty thousand dollars."

"I guess that's about a fair price for our interest," said Fred; "if any of the *speculators* offer that, let's sell, Arthur."

He looked puzzled and undecided. Either of the boys had but little comprehension of the sum they were talking about so glibly, and with such business-like airs.

They did not have long to wait for a chance to sell, for within a week, two men, rough and mud-bespattered, came along and asked uncle Charley if he would sell his interest in the Flag-and-Windmill Well. He said he guessed not, but perhaps they could make a trade with two young fellows who owned a small interest with him.

"Where are they, and how much do they own?" asked the speculators.

"There they are, and they each own one fiftieth of the working interest," answered uncle Charley, pointing to the boys.

"What, those little shavers! Do they own



THE BOY OPERATORS AND THE SPECULATORS.

as much property as that?" exclaimed one of the men.

"Those must be the 'boy operators' I heard them telling about at Titusville," said the other man.

The boys stood up as straight and tall as possible, and tried to look business-like, and appear as if they had been in such large transactions all their (short) lives. It *did* appeal largely to their pride to be referred to as partners of so old and successful an operator as uncle Charley; to hear that they were known and talked of "on change," and to be called on to negotiate a forty thousand dollar trade. They could hardly realize it, and thought, "What would father and mother, and the boys in our school, say, if they knew what a big business we are doing?"

One of the men gave the other a sly wink, and said to the boys, —

"Give you thirty thousand — three days' buyers' option — two thousand refusal. What d'ye say?"

This was "all Greek" to Fred. But Arthur's inquiring turn of mind had put him in possession of the meaning of "refusal," so that he understood the men offered two thousand for the privilege of taking the interest any time within three days. So he said, —

"You can have it for forty thousand."

"It's a bargain." And one of the men counted out two thousand and handed it to

Arthur. Uncle Charley told them he would make the transaction good, so far as the boys could not.

As the men rode away, Arthur heard one of them say to the other, —

"You didn't catch that boy — did you? He's a sharp 'un."

"Uncle Charley," said Fred, "do you suppose they will come back and take the well? They don't look as if they had so much money."

"They have not," replied uncle Charley: "I shouldn't wonder if this two thousand was their pile."

"Then how are they going to buy our well?" asked the astonished boys.

"They don't want to *buy* the well; they want to *sell* it."

"Why, no!" exclaimed Fred; "we own the well, and *we* want to sell it. Haven't they agreed to *buy* it, I'd like to know?"

"You can't sell it, if you do want to — at least, you have no right to sell at any price, during the next three days. No one can sell your interest for the next three days but those men. If some one should now come and offer you sixty thousand dollars or eighty thousand dollars, you couldn't sell. Those fellows will find a buyer at an advance. Although they don't *own* it, and don't intend to, they *may* sell it for fifty or sixty thousand dollars; then they will pay you thirty-eight thousand more,

and pocket the rest for their profits. That's the way they make their money."

"What!" exclaimed Fred, warmly; "if some one offers us more than forty thousand dollars, can't we sell and make the profit, instead of those *spectators*?"

"No, sir! You've sold the chance to do that, and got your two thousand dollars for it."

"That ain't fair!" cried Fred; "I won't do that. We ought to sell for more, if we can."

"It isn't at all likely you can, so don't get excited about it. Those men know where to find customers at big figures; you don't. You are doing well enough. If they don't sell, you will have the two thousand dollars clear. If they do, you will have forty thousand dollars, and I should think that was a comfortable little pocket-full for a couple of boys."

"I declare!" added he, to himself, laughing, "there's just about the same nature in boys, as in men. Those boys never owned a hundred dollars of their own, and now they want to bolt a bargain that gives them two thousand dollars sure, and forty thousand dollars probably, for the possible chance of a few thousand dollars more. Human nature can't be satisfied. The little scamps act just as I would, for all the world. They learn fast."

Then he said aloud, "Fred, you seem to be somewhat dissatisfied with the offer you have made. Have you any idea how much money forty thousand dollars is, do you suppose? Do you know it would buy four or five farms like your father's; make you the richest men in your village; and, at simple interest, give you two boys about *eight dollars* to spend every day of your lives. It would put you where you never need work a day, if you don't want to. Guess you don't know when you have a good thing. I'm afraid this oil business is demoralizing you. Learn to be contented with enough."

He was going on with a highly instructive "preachment," when Fred, with a boy's directness and want of reverence, interrupted him with, —

"Why, uncle, when you had a chance to sell for a million dollars, you didn't, but *stuck on* to make more! A million dollars is more than forty thousand."

This cut short uncle Charley's lecture on contentment. He had to turn his face away to hide a look of confusion and mirth. The vastness of these transactions confused the boys, while the immense sums of money that changed hands, the large fortunes made and

lost daily around them, upset all their previous ideas of the value of money. They now thought and spoke of a thousand dollars as they once would have spoken and thought of a dime. By a single stroke of luck, there seemed to lie at the feet of these two boys a fortune many times larger than their parents had been able to accumulate by a lifetime of patient toil, good management, and close economy. All the wonders of Aladdin's transformations, of which they had often read, were utterly cast into the shade by this sudden, mysterious, powerful upspouting of greasy wealth. Yet they had got a glimpse — only a peep — into the vast wealth unlocked from the caverns of earth, and spread abroad over its surface.

The boys indulged in many dreams and plans as to what they would do with their fortune — when it came. It was only a dream, and a very short one. Like many older operators, these boys were counting their chickens before the eggs were hatched. For, the second day after the refusal was given, the *Flag-and-Windmill Well* was flooded and ruined. This calamity came in this way: —

As soon as the big well was struck, the owners of leases adjoining commenced to bore wells as close as they could get, in hopes of striking the same great reservoir of oil from which the Flag-and-Windmill Well was supplied. In this attempt one of the wells succeeded. But the result was not what was anticipated. As soon as the new well penetrated the cavity, instead of commencing to spout, as the Flag-and-Windmill had done, it allowed a great column of water to rush down, fill the crevice, and stop the flow of oil and gas into the Flag-and-Windmill Well. The pressure of gas and oil, which had kept the latter flowing being thus removed, it also filled with water. In a few minutes both wells were full of water to an equal height, and there they rested. The Flag-and-Windmill Well was good for nothing in that condition for either production or sale: of course the speculators never came back with the balance of the forty thousand dollars.

Thus, in an hour, uncle Charley and the boys saw a million of dollars vanish; and the forty thousand they *almost* had their hands on, slipped through their fingers. To *them* it was a great disappointment. But their uncle took it very coolly; he actually laughed, and said, —

"Never mind, boys! This is greaser's luck. We must take the lean with the fat."

"But," said Arthur, "what are we going to



FRED "KEPT TALLY." Page 43.

do now? Can't the water be got out, and make it spout oil again?"

"It would be of no use to pump the water from *one* well alone. The other well would flood it, if not pumped also. Both wells have got to be cased water-tight, and pumped, and kept clear. Then both wells would probably yield."

This course uncle Charley immediately proposed to the owners of the new well. They were greedy, exacting men, and thought they had the big well in their power. They said they would do what uncle Charley proposed, if he would give them half the oil produced for him thereafter by the Flag-and-Windmill Well; and they offered to give him half the yield of their well, if it produced anything. In other words, they would make an equal partnership in the profits of the two wells. They did not know that their well would produce anything: they *did* know that the Flag-and-Windmill Well would yield enormously.

This demand uncle Charley would not accede to. He tried to buy the new well, and get it out of the way. They said they would sell and get out of the way for two hundred and fifty thousand dollars! Their well was not worth it — perhaps not worth anything. They priced it according to its value, not for *good*, but for *harm*. They thought they could compel the Flag-and-Windmill Well to buy them off at that price.

Uncle Charley said he'd "see them hanged before he'd pay it." And they never got the two hundred and fifty thousand dollars *they* felt so sure of.

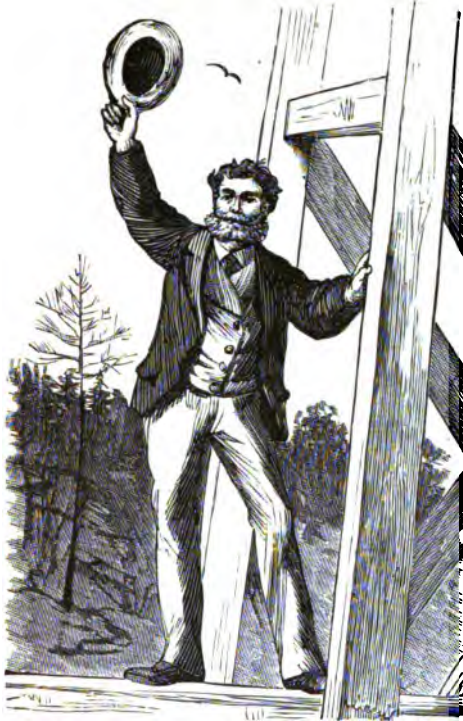
So there the wells stood, full of water, and useless to the owners of either.

"What *are* we going to do about it?" asked the boys.

"Well," replied their uncle, "we can sell out our well as it stands, with the lease, engine, rig, tanks, &c., and quit the business; or, we can hold the well just as it is, and lie still until those fellows come to their senses; they have sunk all the money they have got in their well; we haven't. Or, we needn't wait at all. We have got six thousand five hundred barrels of oil in tanks and barrels. We can sell this for enough to sink more wells on our lease, and I think we would stand a good chance to make another strike. Now, which do you say do — sell out and quit, wait for those *pigs* to come down, or sink more wells?"

Arthur reflected a moment, and then asked, "If it would make the Flag-and-Windmill Well again worth a big sum, why isn't it a good thing to buy off the new well?"

"For several reasons it is not good policy," answered the old operator. "First, if we should pay two hundred and fifty thousand dollars to buy off this well, in less than a month we should have forty more wells to buy



UNCLE CHARLEY'S GOOD BY.

off; they would crowd around the Flag-and-Windmill Well, like flies around a honey-pot, trying to tap it and our pockets. We don't want to offer an inducement to men to flood our well; they will think they can strike our money, if they don't strike oil; we might as well give up at once, as to offer both our well and ourselves to be pumped dry, in that way. In the second place, it is a question of doubt as to what the Flag-and-Windmill Well will do if restored: she may pay, and may not; I don't want to pay two hundred and fifty thousand dollars on an uncertainty."

"Can't we stop them spoiling our business, so?" asked Arthur, indignantly, all his sense of justice and right aroused by the conduct of their selfish and obstinate neighbors.

"I don't know; I think I'll try and see if the law will give us justice. There is a clause in my lease and in theirs that forbids their leaving their well untended, to flood another well."

This was a foolish determination on the part of uncle Charley, for he would lose more money by the delays and expenses of the law than it would have cost him to buy up the new well, even at the exorbitant price asked.

As the boys' vacation was now nearly end-

ed, and all operations were suspended, no one knew for how long, at the Flag-and-Windmill Well, they concluded they would close out their oil business until their next visit to Petrolia.

Accordingly they and their uncle proceeded to market the oil they had on hand. Large numbers of barrels were bought and filled. It was a busy, bustling scene. One large gang of men, under uncle Charley's direction, was engaged in drawing the oil from the tanks into the barrels, while another gang under Arthur rolled them away, and helped load them on the wagons. Fred had a book, and "kept tally," putting down the name of the teamster, and the number of barrels he received to haul at each load.

The caravan of teams was a sight. They covered the ground thickly around the tanks, as many as could load at once. They were constantly going and coming in long trains. They commenced to work at daylight in the morning, and worked until after dark. Many horses were killed by overwork. The roads were very muddy and deep. Constant passage of heavily-loaded wagons cut the soft soil up into deep holes and ruts.

At this time came another turn in the "greaser's luck," that served to put a little light into the dark picture of the drowning out of the Flag-and-Windmill Well. Oil just "in the nick of time" took a sudden upward turn in price; it advanced to a very profitable figure. It was to take advantage of this that uncle Charley crowded the work of shipment as hard as possible.

They succeeded in getting it all out to the railroad, and sold just at the highest point reached. By this lucky turn they made more off that one lot than they had off all they had sold before. The profits amounted to nearly thirty thousand dollars, of which the boys were entitled to two fiftieths, or twelve hundred dollars.

They had the two thousand dollars which the two speculators had paid for the three days' refusal of their interest, and about one thousand dollars cleared off previous sales of oil. They figured it all up, and found they could boast of over four thousand dollars in their own right.

"That's a pretty good vacation's work, if we *didn't* get the forty thousand dollars we thought we were going to," said Fred.

"Fred," said Arthur, "should we carry all this home with us?"

"Yes; why not?"

"Because, if uncle Charley is at any expense to get the Flag-and-Windmill Well to

operating again we ought to help pay the expense; besides, if we don't, we can't expect any interest in it when it produces again. I want to stand by uncle Charley and the old Flag-and-Windmill Well."

"All right," said Fred; "so do I. Let's leave half our money here with him to put things through with, until we can come again."

So they did. A few days after they bade good by to the bustling, dirty, exciting scene.

"Three cheers for the Flag-and-Windmill Well!" cried Fred.

They gave them with a boyish will.

"Three more and a tiger for uncle Charley!" said Arthur.

They gave these with redoubled energy.

Uncle Charley climbed up to the top of the now motionless working-beam, and waved his hat to them as long as he could see them on their winding way down the mountain side.

They reached home in Massachusetts in safety—rugged, brown, happy, and rich. They had drafts on the bank for two thousand dollars.

The boys were the admiration and envy of their school, and were extensively lionized by the whole country round as "the two little shavers who made a pile in the oil diggings." These attentions soon reconciled the boys to the profits, which at one time seemed a mere trifle compared with the forty thousand dollars they *didn't* get—so small as to seem hardly worth bringing home. They found that it didn't take as much to make "a rich man" at their country home as it did among the "oil princes" and millionnaires of Pennsylvania.

Our boys and girls who have read the history of the Flag-and-Windmill Well will perhaps remember that when Arthur and Fred started for Petrolia, little Lulu requested them to bring her a bottle of "oi-e-l to dease her haa." Lulu also remembered it, though her brothers had long since forgotten it, in the exciting, wild life they had lived. In the midst of the general joy over the safe return of the young "operators," and of the exultation over their good fortune, Lulu was left to her own devices. She improved the occasion to dive into the boys' trunk, and fished up therefrom a bottle of crude petroleum, which they had brought home to exhibit as a curiosity. When she was at last missed, by reason of her stillness, she was found squared up before the mirror on a chair, industriously "deasing her haa." She had soaked her golden-yellow, flossy locks so thoroughly



LULU STRIKES OIL.

with the black, sticky, stinking stuff, that the traces of it could not be got out of her hair, nor the scent of it out of the house, in weeks.

"Hurrah!" cried Fred; "another one of the family has struck oil!"

Arthur asked his mother, mischievously, "what she would take for her working interest in Lulu's strike?"

"Mother can't see where the laugh comes in!" said Fred.

All the rest of the family *did*, judging by the noise they made about that time.

All the subsequent history of the Flag-and-Windmill Well, and the improved condition of things Arthur and Fred found, on their next visit to Petrolia, will be hereafter described; also what they did with all the money they made in the oil business.



PART IV.

PUMPING OIL.—"TORPEDOING" THE WELL.

WHEN Fred and Arthur again returned to the oil regions great changes had taken place in the appearance of the country, in the oil business, and in the location of the oil territory.

Railroads had been built to all important points in the oil country, affording convenient and rapid outlets to market. The manner of handling and shipping oil had changed; the army of teams and fleets of oil boats on "pond freshets" had passed away. The manner of sinking wells, of buying, selling, and leasing territory, marketing oil, and, in fact, the whole character of the business, had improved wonderfully. Besides, the region of oil-producing wells had shifted from place to place. Oil had been struck in new places not before considered at all likely to be oil territory, and most of the localities that had once been the most valuable had been exhausted and ceased to produce. Where once the boys had seen thousands of men busy and excited with the tremendous supply of oil, all was now still and stagnant; no one was to be seen—not even one of the long-nosed, gaunt hogs, that seemed to be everywhere in that country. They went to a spot where once had stood a city, with banks, theatres, grand hotels, large stores, and daily papers. All that could be seen was a few shanties and a wilderness of derricks—the mournful monuments of lost hopes and buried fortunes.

Fred inquired of a lone resident of the spot what had become of all the buildings?

"They were torn down, and the lumber sold. Part of them were burned in big oil fires. The four story hotel that stood here (pointing to the spot) was moved away to the next place where there was a big oil excitement."

The boys also saw the bridges and embankments of what had once been a railroad, over which they had formerly ridden. Business had passed out of its reach, and it had been taken up. As the other side of this dark picture they saw many new towns where they had formerly seen but a wilderness. And there seemed to be a more settled and stable appearance to the places and the people. They learned that the borers found no more big flowing wells now, but paying wells were more numerous. There were more chances for an operator to make *something* to pay him; and so many more paying wells were struck that

more oil was produced than when the big leviathan spouters were going. So great were the changes that a short time had made! It gave the boys new ideas as to the perseverance, energy, ingenuity, and pluck of the wonderful men of that wonderful country.

Luckily uncle Charley's lease had not entirely become "played out" territory, as they call it when it ceases to yield. The Flag-and-Windmill well, which they left full of water, was, after months of delay and contest, cleaned out and got to producing again. The arrangement finally made with the rival well was the very one uncle Charley had at first proposed to his selfish neighbors. The owners of each well agreed to case and pump his own well, and *keep it free* of water and get what he could out of it. The two wells were in process of tubing when the boys returned to the spot, so they were on hand to see the whole operation of bringing the old Flag-and-Windmill Well to life again.

The first step was to case the well. This was done to make the well water-tight. The *casing* is iron pipe four and a half to six inches in diameter; it is screwed together in joints by means of a thimble or collar, into which each end of a length fits. It is put into the well to make a water-tight barrel in which they could put the pump-tubing and work the pump. As the casing is to shut off the springs of water that flow into the well, it has to be put down as far as there were any water-veins.

Arthur now saw the benefit of the log-book he had kept when the well was drilling. The log told where the water-veins were found. He consulted the book, and informed the workmen that they would have to go down to the first sand-rock to get below all the water-veins; which would require three hundred and thirty feet of casing to be put in the well.

The manner of putting down the casing interested the boys. One length of pipe was let down into the well; it was kept from falling by a pair of *clamps*. These were clasped around the pipe just below the collar which was screwed on the upper end of the pipe. The clamp was locked tight by means of a link on the handles. The coupling kept the clamp from slipping off the pipe, and the clamp resting across the mouth of the well kept the whole from falling.

A curious machine, called a *swivel*, was now screwed in the coupling of another length of pipe. The swivel



Clamp

has a heavy hook in it which can turn without unscrewing the rest of the machine from the casing.

"Why," said Arthur, "that's just like the swivel on my watch-chain."

"Yes," said Fred; "and it's just like the swivel on father's big log-chain."



Swivel

now put



Tongs.

When the swivel was tightly screwed on the length of casing, it was hooked on the bull-wheel rope, the engine started up, and the piece of pipe elevated until it hung upright, end to end with the length in the well. A big pair of tongs were on the upper piece of pipe, and it was screwed down into the coupling as far and as tight as it could be forced. The clamp held the lower piece from turning.

When the connection was made secure the clamp was loosened enough to let the coupling pass through. The bull-wheel was turned, and the pipe let down until the next coupling arrived at the clamp; then the clamp closed on the pipe again, and held it. The swivel was unscrewed and attached to another length of casing; and the operation repeated until a continuous casing was screwed together, and let down as far as the first sand-rock. Great care was taken all the time that the heavy casing should not slip through and go down the well with a crash; to this end the clamp was kept just loose enough to let the pipe slip through while it was being lowered, but not loose enough to let the coupling go through. Thus if the engine, bull-wheel, drill, rope, or swivel, — any one, or all of them, — should give way, the casing could fall only till the last coupling reached the clamp; then the clamp would stop the falling pipe at the coupling. Two men attended the clamp while the casing was passing down, to see that it kept the work secure.

But before the first piece was put in the well, the workmen fastened on the lower end a *seed-bag*. The seed-bag is a simple contrivance for sealing up the space between the casing and the rock water-tight, so that no water can pass down farther than the seed-bag at the first sand-rock. It is a strong leather sack, about four feet long. They first lashed it firmly around the lower end of the casing. Then the bag was filled with flax-

seed, and the whole wrapped around the casing, and firmly bound there.

Fred said it looked like a broken leg with a poultice and bandages on it. It made a bunch on the pipe nearly, but not quite, large enough to fill the space between the casing and the rock. When the casing, thus swaddled in leather and flax-seed, was let down to place, the water gradually penetrated the leather and soaked the seed. In a few hours it swelled so as to fill the space around the pipe full and tight. Thus all the water was shut in between the casing and the rock, and above the seed-bag; it could not get into the casing, nor run down to flood the well below the casing.

The same work was, at the same time, done in the well on the next lease.

The next step was to put in a pump and pump-pipe, called *tubing*. The pump, or pump-barrel, is a brass tube six feet long and two inches inside diameter. At the lower end its bore is contracted a little; this is to wedge in tightly the lower valve-box.

Two valves operate in the pump-barrel.



Upper pump box.



Lower pump box.

The lower valve-box is stationary, and therefore is called the *standing-box*. The other valve rises and falls in the barrel with the plunger. It is called the *upper-box*.

These pump-boxes are of brass, have a "ball valve," and are surrounded with several rings of leather, called "packing," to make them fit tight in the barrel, and "suck" up the oil. A projection at the lower end of the working-box is fitted to screw into the standing-box; by letting one box down on the other, and turning the upper one, the two become attached together. and so can be drawn out of the well when needing repairs, as the leather packings frequently do. The "grit" in the oil wears them out fast.

The pump-barrel, with the standing-box fixed securely in its lower end, was now screwed on a length of two-inch iron tubing; another length on that, and so on, just as described in the operation of putting in the casing. Tubing is very heavy and strong pipe; none but the best "lap-welded" pipe will hold the tremendous pressure of a column of oil six hundred feet high.

Arthur understood the necessities of this case, as he had learned in philosophy that the pressure of fluids depended not on the quantity, but the *height* of the column. He explained to Fred that a one-inch pipe, ten feet long, full of water, would press just as heavily as a full pipe of the same length ten inches or ten feet in diameter. With all his talk, however, he couldn't make Fred believe it; in fact, he told Arthur that when he said ten inches of water, ten feet high, is as heavy as *one* inch of water ten feet high, he was "gasing."

They now had three sizes of pipe in the well, —

1. The drive-pipe (which you who read the first of these articles, in the March number of **OUR BOYS AND GIRLS**, will remember was first driven in the earth) six inches in diameter, extending only down to the bed rock, twenty two feet. 2. The casing, with the seed-bag on, four and one half inches in diameter, extending down to the first sand, three hundred and thirty feet. 3. The tubing, two inches diameter, to the bottom of the well. The drive-pipe was necessary to save drilling in sinking the well; the casing, to shut out water; the tubing, to conduct the oil up from the pump to the surface.

Fred thought he had made a discovery. "If I was doing this job," said he, confidently, "I would not put in so many pipes. I'd just tie the seed-bag on the *tubing* at the right spot to shut the water in above, and so I'd save the cost of the casing. The tubing can just as well keep out the water as to put down casing a-purpose to do it."

"Yes, and you'd be just about as smart as *we* used to be years

ago!" answered one of the men. "Put the seed-bag on the tubing, and the first time you had to move the tubing to change the position of the pump, or had to haul it up for repairs, you'd burst the seed-bag, and down goes the water into your well. Then you've got to put on a new seed-bag, and you've made yourself a job of a week or two to get the water out again, besides the damage done to the well

every time you flood it. No, young man, casing is a cheap investment, merely to keep the water out."

The next step was to set the pump going. The upper valve-box is operated in the barrel at the bottom of the well by means of *sucker-rods*. These are slender hickory or ash poles,



Sucker rod joints.

twenty feet long, on the ends of which are riveted irons that screw into each other, thus making a continuous sucker-rod to the bottom of the well. On the lower end the working-box is screwed, and the whole lowered in the tubing until the working-valve is in place in the barrel.

Fred had been long enough in "Petrolia" to get his wits sharpened, and learn to use his eyes and ears more, and his tongue less, than formerly. It is a great place to teach observation. So Fred decided, without asking any questions, that the sucker-rods were made of wood, instead of iron, to save weight in operating the pump.

To the last sucker-rod there was screwed a round iron rod, which projected out of the top of the tubing.

"Now for the *stuffing-box*!" said the workmen.

Fred again thought of turkey when he heard the word "stuffing." The stuffing-box (instead of a roast turkey) is an iron that screws on the top of the tubing; has a hole through its top large enough to let the iron rod through; a space is left



Stuffing Box.

in the box, around the rod, to be filled or *stuffed* tight with cotton or rags to make the joint tight. In one side of the stuffing-box is a spout to let the oil out, as it could not rise above the stuffing around the rod.

The rod was now attached to the working-beam, and they were ready to pump. The other well was also ready, and both commenced to pump the same day.

Everybody was now anxious to see what report the great Flag-and-Windmill Well would make after its long sleep. Would it spout again after the load of water was removed? Would it yield anything? How much? These were questions in which thousands of dollars for the boys and their uncle were involved.

The pump from neither well brought up anything but water for ten days. All the crev-



ices and caverns from which so much oil and gas had risen were full of water, and had to be emptied. At the end of ten days oil began once more to come from the pump of the Flag-and-Windmill Well. This supply increased until the well had worked up to forty barrels a day — no more.

The other well never produced oil in paying quantities. After two weeks' pumping there was a small "show," and at length a yield of five barrels a day. This began to fall off, and in a few days the well was abandoned. Thus the proprietors of it became bankrupt, and the engine and tools were sold by the sheriff. It proved fortunate that uncle Charley had not consented to give them half the yield of the Flag-and-Windmill Well. In damaging him so much they had ruined themselves.

Arthur and Fred pitied them, although they had been the means of the Flag-and-Windmill Well losing hundreds of thousands of dollars. As they sat on the bull-wheel shaft of their ruined well, and gloomily contemplated their buried hopes and fortunes, they were indeed pitiable.

"What will they do now?" asked Fred, of his uncle.

"O, they will go to work by the day on some well, and in a year or two they will earn and save up enough to buy an interest in another lease, and start in again. Probably the next you hear of them they will be worth half a million apiece. This isn't the first time they've failed, and probably it will not be the last. They don't care half so much about it as they seem to — not as much as you do. A 'busted greaser' never stays 'played out' long."

The boys were also much disappointed in the yield of their own well since its restoration. Forty barrels a day, by the slow and expensive means of pumping, seemed to them small business when they thought of the former self-operating fountain of eight hundred barrels' capacity. As usual, anxious to know the *cause* of everything, they sought from their uncle an explanation of the falling off of the well.

"What is the reason?" Arthur asked, "that the well does not do more. What has become of all the oil and gas we once found? Why does water in the well injure it so?"

For reply, his uncle took him to a tank through which oil and water had been running some time. Part of the oil was thick as mud, and there was a gathering of sticky, wax-like, brownish matter in the tank. He explained.

"That thick stuff is *paraffine*. It will form and harden in oil exposed to the action of water or air. When the well is left with water in it this paraffine is separated, settles in the crevices and openings of the oil veins, and soon putties them up.

"Besides that, the action of water in a well left idle washes down dirt and small stones, which form a sediment at the bottom of the well, and choke up the seams. Then there is so much salt water in all wells that salt crystallizes on the walls of the well, and helps obstruct the flow of oil. Again, in some wells the water has so much lime or other mineral in it, that a crust forms on the tubing, just as you have seen it on the inside of the tea-kettle. I presume the same crust forms on the sides of the well.

"All these things help to form permanent obstructions in the well. Besides, in many cases, the same oil veins are tapped by other wells, and while one is lying idle the others may carry off all, or nearly all the oil in that particular basin."

"Well, uncle," said Fred, "no other well has carried off all our oil, for there is some there yet."

"Yes, I think there is a good lot of it there yet. I think paraffine is the principal obstruction in our well."

"Can't we get it out?" asked one of the boys.

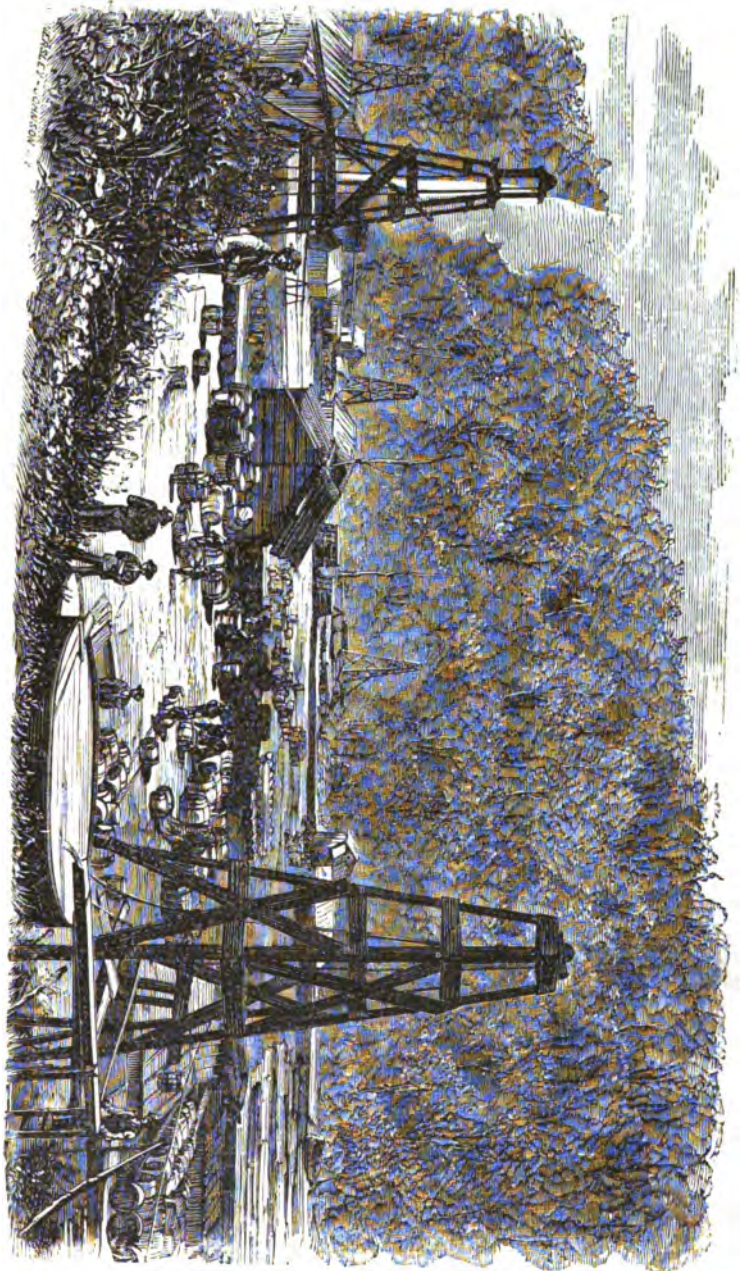
"O, yes; paraffine is the easiest of all the obstructions to remove. We will try some *benzine* on it to-morrow."

The next day several wagon loads of benzine, in barrels, came, and the boys had a chance to see how it operated on paraffine. They took a little of the thickest they could get, and poured some benzine on it. It dissolved the paraffine in a few moments.

The tubing was now drawn out of the Flag-and-Windmill Well. This operation required only a few hours. One of the workmen asked Fred where his well would be now if there was no casing in it, and the seed-bag was on the tubing? When the tubing was out, they emptied twenty-four barrels of benzine into the well, filling it partly full. They left it thus a few hours for the benzine to act on the paraffine.

The boys went frequently to see how the well got along with that dose of benzine in it. To their surprise it gradually sunk in the well, until they could not touch benzine with ten sucker-rods screwed together. Fred ran excitedly to the shanty, and called out, —

"O, uncle, the well has sprung a leak somewhere, and the benzine is all running out!"



FLOWING WELLS.

How the men laughed! Uncle Charley explained that the benzine was cutting the paraffine in the oil veins, and by a tremendous pressure of six hundred feet head, was forcing its way into all the crevices. They put in eight barrels more of benzine, and left it to cut and press a whole day. At the end of that time the pump was put down again.

At first only benzine came. After the bulk of that was out, oil began to come in increased quantities. The benzine had worked so well that the yield ran up from forty to seventy barrels a day. They continued to get occasionally small quantities of benzine with it, showing how that fluid had forced its way back into the crevices. Chunks of paraffine also came up, like clotted oil; some of it was lighter colored, and quite firm.

This increased yield did not last long. The flow began in a few days to fall off again. So this proved to be only a temporary remedy. The well continued for some time producing what would be considered anywhere else but in "Petrolia" a very large revenue. Although it paid uncle Charley twenty-five to thirty-five dollars each day, above all expenses, he was not satisfied; and finally declared "that tuppenny business was played out. I'll blow up the well, and make it do more, or nothing."

"Blow it up!" echoed Arthur; "how will you do that?"

"I'll put a *torpedo* in it."

"Torpedoes! Fireworks! O, goody!" exclaimed Fred, with "enthusiastic applause," as the play-bills say.

"You won't see much fireworks," said his uncle; "but if you and Arthur will go to Titusville, and tell Mr. Roberts that we want the Flag-and-Windmill Well 'torpedoed,' we'll see if we can't show you some *oil-works*."

They went, and did the business correctly. A man was sent down the next day with the torpedo. The boys, as usual, wide awake to any new thing, very soon found out the machinery to explode the well. They discovered first a long tin tube, closed at one end and open at the other, two feet long, and two inches in diameter. This they learned was to be loaded with the explosive material. Then they fished out of a basket a queer iron contrivance. This was the head to the torpedo, to be fitted in after the case was full, and ready to let down in the well.

Of course Fred had to try it on the case, "to see how it would fit." It didn't fit at all tightly; in fact it hung quite loosely in the end of the case.

"Hallo!" said Fred; "this won't do.

You've brought the wrong head. It don't fit, and it will let the water in and spoil the powder. You have got to go back and get another head."

The man looked at Fred curiously, and said, "Boy, are you running this torpedo business?"

Fred got snubbed for talking too fast and too soon. When the man saw how confused Fred looked, he good-naturedly explained to him that they did not use powder, but a substance called nitro-glycerine. It will explode *in* water, and is thirteen times more powerful than gunpowder. He brought the nitro-glycerine with him in a can, and he poured out a little and showed it to the boys. It looked like clear oil or syrup. He told them he should set it off in the well, not by touching a fire to it, as in the case of powder, but by shooting a bullet down into it. He put a few drops on a stone, and dropped another stone on it: it exploded like a small cannon. He told them many stories about nitro-glycerine. Once an engineer at an oil-well stole a can of it, and used it for several days to grease his engine with. One day he set the can on the boiler to warm the oil: he thought it was cold and stiff. In a few minutes it exploded, and killed the man, and blew the engine-house, boiler, and machinery into thousands of pieces. Messrs. Roberts Bros.' nitro-glycerine magazine, near Titusville, exploded one day. The concussion was heard sixty miles away, and people all over that region thought another earthquake was at hand.

The man now poured the nitro-glycerine into the tin case of the torpedo, and put the head on the case. The head of the torpedo was the hardest to understand. There was a round iron plug three inches long, bored out hollow, like a small cannon — which in fact it is. The vent, or nipple, and percussion-cap to shoot it, are in the rear, instead of on one side or on top of this little cannon. The cap and nipple are protected by being in a little round hole or chamber drilled in the iron. This little cannon is suspended, muzzle downward by an iron bail or handle; this bail supports both the case and the head when being let down into the well by means of a strong string or wire. The hammer to strike off the cap has a little point on it, small enough to reach down into the chamber in which the cap is set, and strike the cap. There is a hole in the hammer, through which the bail of the torpedo passes. This lets the hammer rise above the bail. The string that suspends the torpedo is tied to the bail, and passes through

a small hole in the upper part of the hammer. Now when a weight is sent down on the string, it will strike the hammer before it does the bail. In order to keep water out of the chamber in which the cap is, a rubber band or collar is slipped over the joint between the chamber and the hammer; this keeps out the water, but is elastic enough to let the hammer drop down against the cap when the weight comes down on top of it (the hammer).

The cannon or plug was loaded with gunpowder and a ball of lead, the cap put on, and the rubber band slipped over the joint. The man then fixed the head into the case by two little screws. It was all ready, and he began to let it down slowly into the well by a coil of cord.



Torpedo Head.

When enough cord had been paid out to sink the torpedo to a point opposite the oil crevices, the messenger to discharge it was slipped on the line. This is a tin tube eight inches long, with a ball of lead on one end. The ball alone would vibrate, and bound from side to side, and break the string. The tin tube served as a tail or guide to it, to keep it steady. Fred understood the effect of this by his experience with darts and arrows. He also compared the weight to the "messengers" he used to send up on the line to his kite.

All was now ready, and the little messenger was started down the line through six hundred feet of water, to discharge the magazine. The people around the well expected a great eruption, and stood back a respectful distance. The only occurrence was a suppressed, dull report, and a little agitation in the well.

"Why don't it blow the water out?" asked the astonished and disappointed boys.

"Water is just as good wadding as paper, if you get enough of it on top the load. It would take a bigger torpedo than ever was made yet to start that column of water up," said uncle Charley.

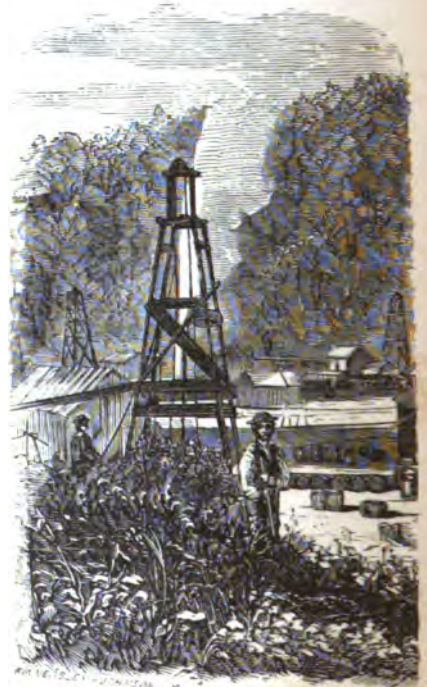
The torpedo agent added, "We have to strengthen the case of the torpedo with steel ribs all around the inside, else the pressure would collapse it."

While this talk was going on, Arthur stood gazing intently down the well. Suddenly he exclaimed, —

"Well, the water *is* blown up, and *it's coming up now!*" And with these words he started on a run out of the derrick, pale with fright, as if he thought torpedo, water, oil, gas, well, and all were after him.

At the same instant all the rest started towards the well to see what had frightened Arthur. Before they got to the well they were showered with water and oil.

The Flag-and-Windmill Well had begun to spout again!



PART V.

MARKETING OIL.—A FIERY FRESHET.

THE sudden jump of the Flag-and-Windmill Well from forty barrels up to two hundred, when "torpedoed," lifted uncle Charley, Arthur, and Fred on the top wave of fortune again, as their oil-boats had been lifted and carried away on pond freshets in former days. Owing to the better regulated systems of doing business, a two-hundred barrel well now was as profitable as an eight-hundred barrel well was at the time the Flag-and-Windmill Well was first struck. They had not now to pay so large a portion of their earnings for hauling the oil by teams; it was all transported by other means. Also, the market was more settled, and paid more profitable figures. They never had any fears now of oil going down to ten cents a barrel, as was the case once, when so many big spouting wells were struck. The "flooding" of the market at that time, while it made oil almost worthless, and ruined many individuals, had a good effect, viz., it made oil so cheap that it came rapidly into use all over the civilized world, taking the place of all other illuminators. Thus a permanent demand for petroleum was created, which the owners of wells afterwards got the good of, in a steady, certain market.

Another reason why uncle Charley and the boys did better with a smaller well was, because they were not at the expense of buying barrels; they sold all their oil in bulk. This expense, which was once many times the value of the oil contained in the barrels, they now saved for their pockets.

When the large supply of oil recommenced, Arthur began to look about for the storage for it. He discovered, for the first time, that during their absence in Massachusetts uncle Charley had sold all but two of their tanks. Visions of another wasteful scene, like that when the Flag-and-Windmill Well was first struck, came in his mind. In consternation he ran to his uncle with—

"Why, uncle, what has become of all the tanks? Where shall we put the oil?"

"O, there's tankage enough, I guess! When our tanks get full we'll pipe it!" answered he, coolly.

"Pipe it! Pipe it!" said the boys. "What's that!"

They soon discovered a pipe had been

laid from their tanks to a large iron tank a few rods below. When their tanks were full, uncle Charley told the boys to go down to a little building near the big tank, and tell the agent of the Pipe Line, that the Flag-and-Windmill Well wanted to deliver some oil.

They went. On the building was a little sign, which read—

BLOWALL PIPE LINE CO.

STATION No. 9.

They found the agent inside, and did their errand. He said "they could turn on in about twenty minutes; if they would wait he'd tell them when he was ready."

They waited. In a few minutes he went out to the big tank. The boys, of course, followed, and all three climbed up a ladder to the top of the tank. It was covered over, except a hole about two feet square, to which a trap door was fitted, like all the rest of the work, of iron. The top was covered over with sods, on which green grass and flowers were growing.

"Well," exclaimed Fred, "I should think this was one of the hanging gardens we read about! What makes you let this tank all grow up to grass so?"

"We sodded it over to keep the sun off; the heat of the sun sometimes sets gas and oil on fire, and explodes a tank."

"How large is this tank? how much does it hold?" asked Fred.

"It is eighteen feet high, forty-five feet across, and holds about five thousand barrels," answered the agent.

"Then there are about two thousand five hundred barrels of oil in it now. It's about half full, I should think," said Arthur, peering down into the tank.

"We won't *guess* at it, I reckon," said the agent, smiling. He then took a long pole, on which feet, inches, and quarters of inches were marked, and set it down to the bottom of the tank. Pulling it up again he looked at the mark of the oil on the pole, and found the depth of the oil to be eight feet three and one-fourth inches. Putting this measurement down in a little book, he said, "Now you may turn in your oil."

"But aren't you going to empty the tank first? We don't want our oil to go in with anybody else's oil, I guess," said the excitable Fred.

"It won't make any difference if it does mix. Your oil isn't any heavier than the production of other wells here. It makes no dif-

ference to you, so long as you get back all the oil you put in, does it?" said the agent. "I know how many barrels there are in the tank now, and I will measure again, after your oil is in, and then we'll know how much you have run in."

"How can you tell by the feet and inches how many barrels there are?" asked Arthur.

"Go and tell your uncle to turn in the oil, and then come back to the office, and I'll show you," replied the agent.

They did so. In the office the agent showed them a paper, all covered with figures; it was framed, and hung up. He explained, —

"This is a *gauge-table*. This column of red figures shows the depth of the tank, by quarters of an inch. And this column of black figures opposite shows the quantity of oil for each measurement."

Arthur looked on the gauge-table for the depth the agent had entered on his book. He read it off thus: —

8 f. 3 i-4 in. . . . 98,398 gals.

"Now," said the agent, "divide that by forty-three, and see how many barrels there are in the tank."

Arthur quickly announced the result to be two thousand two hundred and eighty-eight barrels and fourteen gallons over.

"You see," said the agent, "your guess of twenty-five hundred barrels was too high: it would have lost you about two hundred and twelve barrels of oil."

Presently the oil had ceased running in from the Flag-and-Windmill Well's tanks, and they went out and took another measurement. It was twelve feet eight inches. Looking on the gauge-table, they read again, —

12 f. 8 in. . . . 150,695 gals.

"Now subtract your other number from that, and you will know how much oil you have delivered," said the agent. Both the boys "worked the example," and found the difference between the two quantities measured to be fifty-two thousand two hundred and ninety-seven gallons. They divided this by forty-three, and learned they had one thousand two hundred and sixteen barrels of oil to pipe.

This amount the agent put down to the credit of the Flag-and-Windmill Well. He also entered it on a little deposit book, which he gave to them, just like a bank depositor's book, only he entered barrels and gallons of oil in it instead of dollars and cents.

"There," said he, when it was done, "now

you can check out your oil any time you please."

"Will we get the oil *here*?" asked the boys.

"No; at the railroad station."

"Why," said Fred, "that's four miles from here. How will you get the oil over there?"

"Come in here and I will show you," he answered.

He took them into an engine house, where there was a boiler attached to a machine, that looked like an engine, with a tall, hollow air-chamber.

"Halloo!" cried Fred. "See this funny engine, with a balloon on it!"

"That's not an engine," said the agent, "it is a *force-pump*. It forces the oil through four miles of pipe, to the company's tanks on the railroad. It runs by steam, and has force enough to carry the oil over hills that distance. Your oil will all be over the mountain in a short time; but you can check out, and sell it now if you want to. There is plenty of oil in the company's tank to draw from."

The next day uncle Charlie told the boys they might go to Oil City, and sell five hundred barrels of oil — he had such confidence in their business capacity and trustworthiness. He told them to get from the agent of the Pipe Line a "certified check" for so much oil, and sell it for the best price they could get. Arthur went to the office, and told the agent he wanted to call five hundred barrels of oil.

"To whose order shall I draw it?" asked he.

"I don't know. It is not sold yet," replied Arthur.

"Very well. I'll leave it blank." He then filled out a printed order, to read like this: —
Barrels, 500.

BLOWALL PIPE LINE,

Deliver to _____ or order, Five Hundred Bbls. Crude Petroleum, of 43 galls. each, and charge to account of Flag-and-Windmill Well.

Collect 25 cts. pipeage.

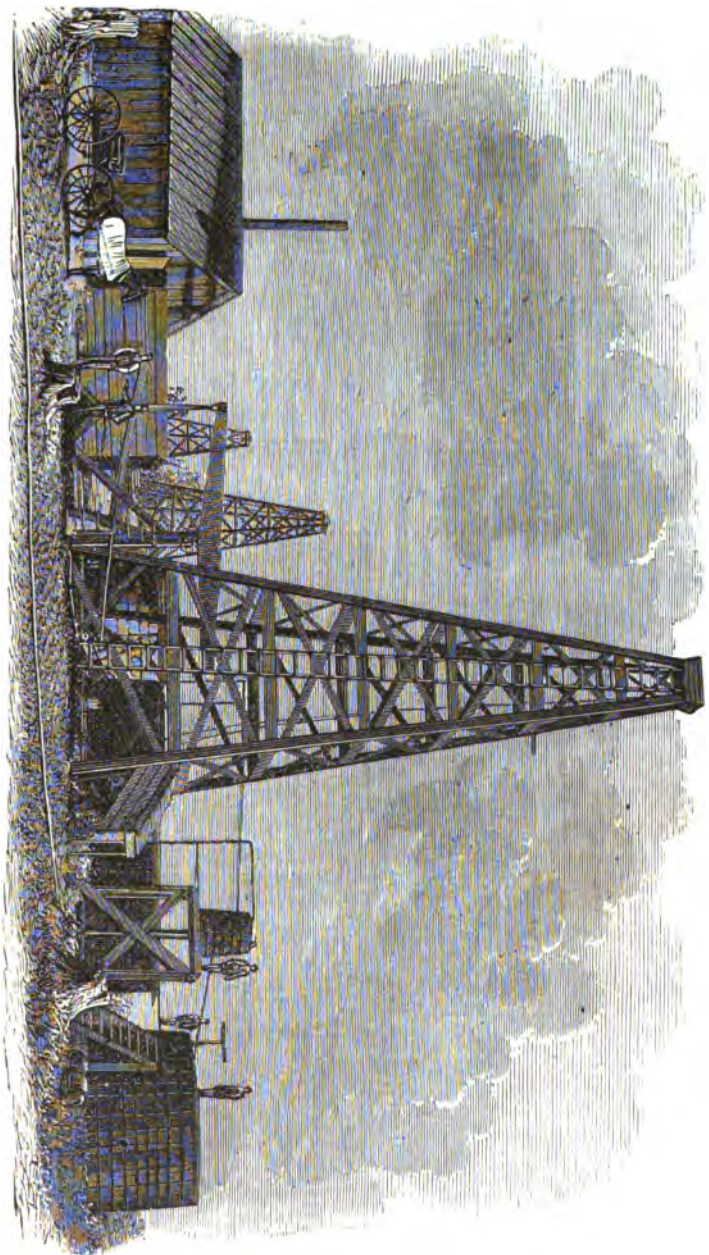
CHAS. ARTHUR & FRED SEARS.

A line in fine type at the top of this blank, said, "This order is not good until accepted by agent of station at which the oil is received." Accordingly the agent wrote his "acceptance" across the face of the order, in red ink, in these words: —

"ACCEPTED at owners' risk for any loss by Fire, Leakage, Evaporation, or Bursting of Tanks.

"JOHN WARDWELL,

"Agent for Blowall Pipe Line."



OIL WELLS IN OPERATION.

THEORY OF SETS
R L

The "pipeage" is the charge of twenty-five cents a barrel for transporting the oil through the pipe.

This certified order was all the boys needed to sell their oil with. It was as good as if they took the oil with them on wagons or cars. The little slip of paper was good for five hundred barrels of oil anywhere. They went to Oil City, where large sales of oil were made daily, and where large numbers of refiners, agents for foreign dealers, agents for refineries in different parts of the country, speculators, oil-brokers, &c., met well-owners and sellers of oil. Hundreds of thousands of dollars' worth here exchanged hands daily.

Arthur mixed up with the throng, and listened to the prices asked and paid for crude. Much of the talk he could not understand, as he was not acquainted with the terms used. He understood enough to satisfy himself what he should ask for his oil.

As they were pushing their way into an excited knot of dealers, one of the men said, impatiently, "Boys, stand back! Go 'way! What do you want here? This is no place for boys."

"I want to sell some oil," said Arthur.

"O, *you* do! What you got?"

"Five hundred barrels crude, at the delivering tank of the Blowall Pipe Line."

"Give you \$3.26."

"Guess not," said Arthur; "I just heard offers as high as \$4.10."

The man found he could not cheat Arthur, and so moved away. Three or four dealers, attracted by the novel sight of the boys doing business there, had gathered around. In a few minutes Arthur sold his oil to one of these men for \$4.25. He first deducted two barrels for each hundred, which the Pipe Line retained to make itself good for leakage. This left him four hundred and ninety barrels to sell. This, at \$4.25 per barrel, came to \$2,082.50, as Arthur figured it up. The purchaser reckoned it, and at first made a mistake of over one hundred dollars.

He said, "I guess you've made a mistake, young man."

"Maybe I have; I'll work it again," replied Arthur.

Fred, meantime, picked up the paper the man had been figuring upon, and reviewed his work. In a minute he said, respectfully, —

"Mister, haven't *you* made a mistake?" And he pointed out the error.

The man looked at it a minute, and then, with much confusion at being caught in a blunder by a boy, said, —

"Yes, yes, I presume your figures are all right."

"I am *sure* they are," said Arthur, who had by this time been over them twice. "Two thousand and eighty-two fifty is correct."

"How much is your pipeage?" asked the man.

"Twenty-five cents per barrel," said Arthur.

"Well, take that out. How much does it amount to?" asked the man.

Arthur quickly found that the tankage would be one hundred and twenty-two dollars and fifty cents. Subtracting this amount from the first one, Arthur found the balance to be one thousand nine hundred and sixty dollars. For this sum the purchaser gave them a check on an Oil City bank. They took the check to the bank, and asked the cashier to give them a certificate of deposit for the money, which he did. This certificate of deposit they could sell precisely as they had sold the accepted order for oil.

When the man paid them for the oil, he took out two five dollar bills and gave one to each of the boys, saying, "You just keep mum about that mistake of mine!" The boys said they would keep still about it, if he wanted them to, without the money, and tried to make him take it back. He said, "O, that's all right; keep it. If you don't want it, send it home to your sisters, if you've got any, to buy dolls with." And so he left them. Fred said, —

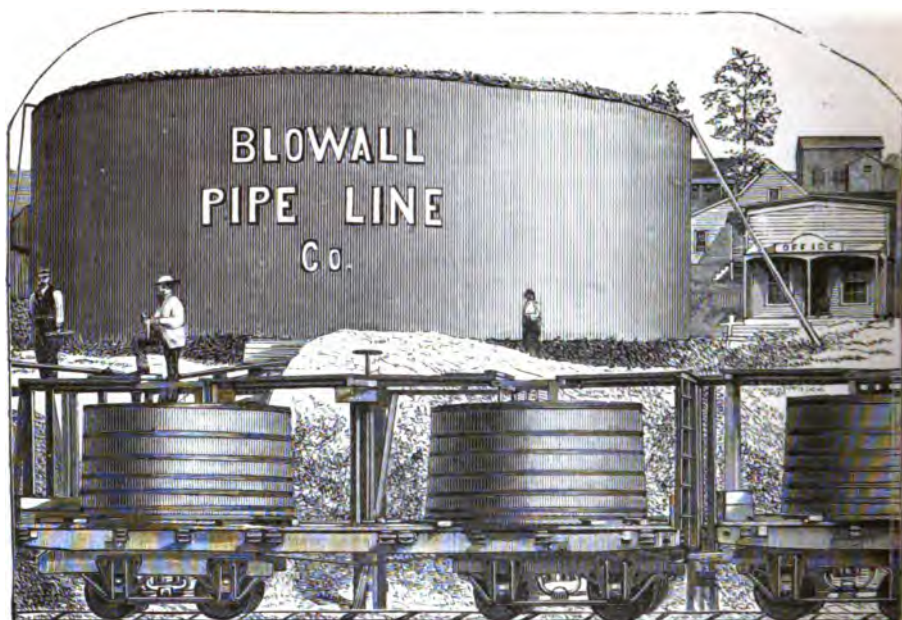
"Well, he's a funny man. *Good* one. too."

"I guess he's got some girls and boys of his own at home," said Arthur.

When the boys got back, uncle Charley praised them for managing the business so well, and told them they might market all the oil thereafter. So, as often as five hundred barrels of oil accumulated, and the market was up to a good paying price, the boys made a sale of it. They soon became as well known "on change," as any of the old oil men. They were prompt, accurate, bright, and civil, and at the same time fresh and boy-like, so that everybody liked to see them, and deal with them. Fred's theory was a good one; most of the men had families and children at home, far away, and liked to be reminded of them by the presence of a couple of good, bright boys. The boys found ready, good-natured answers to their numerous questions, and so they soon became well posted regarding everything connected with the business.

One day a famous oil-broker, who had taken quite a fancy to them, said, —

"Boys, oil is going up soon. Why don't you hold yours for a rise?"



THE SHIPPING-RANGE.

"Uncle doesn't think it is going up, and he says sell," answered Arthur.

"Your uncle isn't posted. I'll tell you what you do. Let your uncle sell his share, if he wants to, and you store your share sixty days, and see who comes out ahead."

The boys thought the matter over, and finally concluded to hold *part* of their oil, as the broker advised. So they hired tankage, and had five hundred barrels of their share stored. Uncle Charley told them they would lose by not selling; but they were determined to try it on one lot. Arthur said, —

"The price is low now. Everybody says it can't go *much* lower. If we see it decline fast, we can sell that much any day, and not lose much. It will not break us if we do lose something on this lot, and we *may* make."

The result proved that the oil-broker was a better judge of the market prospects than uncle Charley. In less than a month oil began to advance. In a short time it rose three dollars on a barrel, and the boys sold. They cleared on that lot one thousand five hundred dollars *more* than they would if they had sold, and that much more than uncle Charley had made by selling before the rise. The fact was, a few large dealers were managing matters so as to force the market up, and Arthur and Fred had been let into the secret.

This same "ring" of speculators cleared a

million and a half of dollars by the same rise on oil they held. Only Arthur learned they did not *buy* or own the oil they had made their money on at all. They only took "options" on it, and then, when it went up, sold it for the latest price, and paid the real owners the old, low price. This is what they call "bulling" the market—as if they had put horns under the price of oil, and raised it. When, by the same means, the price of oil was forced down, they called it "bearing" the market—as if they had reached sharp claws up and pulled the price down.

One day the proprietor of a big oil refinery at Cleveland, Ohio, who had got acquainted with the boys, and had visited them at the Flag-and-Windmill Well, telegraphed them as follows: —

"To Arthur and Fred,

"Flag-and-Windmill Well:

"Ship me eight hundred bbls. crude, and draw for amt., at current price this day.

"Wm. Winsor."

As they did not have quite so much oil on hand as this order called for, they had to buy some to make up the amount. Arthur proposed to go to Oil City and buy it; but his uncle said they could buy it a little under the market at some of the wells near by. Oil being now on the decline, with a prospect of its



"NOW, LET'S SMOTHER IT!" CRIED UNCLE CHARLEY.

going still lower in price, owners of small lots would be anxious to sell, and would take less than current market rates, in anticipation of getting even less if they held it. The boys soon picked up enough, here and there, to fill the order, and got the most of it at prices from ten to thirty cents below the market. That much was profit.

They had it all piped to the railroad. They then went to the office of the Oil Car Transportation Co., and engaged cars to take eight hundred barrels of oil to Cleveland. The cars they engaged were called *tank-cars*. A tank-car is a common flat car, with two wooden tanks set upon it. Each of these tubs holds forty barrels, making each car carry eighty barrels of oil in bulk. Thus the cost of barrels is saved. It took ten cars to carry the oil to Cleveland.

The Blowall Pipe Company's delivering tank held twenty thousand barrels of oil when full. It was located as near the railroad track as it could be safe from the fire of passing trains, and elevated on a bank higher than the track. A large iron pipe from the tank is laid on a platform ten feet high, by the side of the track, for several rods. To this pipe are attached long-nosed spouts, at such places

as will bring a spout opposite each tank on a train of oil cars. Each spout has a stop-cock, which is turned by a wrench, to let out the oil. This platform, with its pipes, spouts, &c., is called a *shipping-range*.

Arthur directed the oil train to haul up beside the shipping-range. The covers to the holes in the tops of the car-tanks were unscrewed and taken off. The spouts, which were attached to "goose-necks," and could be turned any way, were placed in the tanks. Arthur and Fred now went through on the platform, and turned all the stop-cocks, and the oil ran furiously into all the twenty tanks at once—the big reservoir of oil on the bank above forcing it through with a great pressure. In a very few minutes the tanks were all full. The stop-cocks were turned, the spouts taken up, swung around on the platform, and laid down alongside of the main pipe. The Transportation Company then gave Arthur a shipping bill or receipt for the oil, stating how much oil had been delivered on the cars, to whom, where, and for what price it was to be carried. This bill he sent by mail to Mr. Winsor, at Cleveland. He then went to the bank, and drew a draft on Mr. Winsor for the amount of the eight hundred barrels of oil.

While the boys were at Titusville, on this business, a despatch came over the wires, saying that a great fire was raging on the Run, on which the Flag-and-Windmill Well was situated. They took the first train back.

Long before they reached the spot, they saw the smoke and glare of an immense conflagration. As they neared the spot, they saw the grandest, but most terrible sight they had ever seen or imagined.

No one knew how the fire commenced. The first warning was an explosion, and a sheet of flame from a small tank, a few rods above the Flag-and-Windmill Well. The fire spread rapidly after being once started. On the gas that filled the air, the flames leaped from well to well, and from tank to tank. Each well became a burning one. The flames wreathed and twined up the tall derricks, which, being dry, and saturated with oil, burned with wonderful fury and brilliancy; on these ladders the fire climbed, and from the tops soared far up into the air. The exploded tanks covered the ground with oil, and this soon formed a burning river, which flowed down the mountain, destroying all before it.

The Flag-and-Windmill Well had been reached by the fiery flood before the boys got there; they were just in time to get a glimpse of the flag at the top of the derrick, before it fell. Everything else was covered and concealed in a dense, black smoke and flames. The volume and blackness of the smoke was wonderful; it made such a contrast and background to the flames, that belched out from the midst of it, that they resembled flashes and streaks of lightning in the blackness of night. It seemed as if the flame was wrapped and smothered in a black swathing, from which it was constantly struggling, with fierce roars, to escape, and only succeeding partially. In this contest between smoke and flame, it rose two or three hundred feet in the air, pitching and writhing like monstrous birds in warfare. This sight, so utterly beyond description, and disastrous as it was, held Arthur and Fred spellbound with awe and admiration. All they had ever seen, read, or imagined did not equal it. One man, who had seen a grand volcanic eruption, and passed through a great earthquake, said this was a more wonderful sight than the former, and a more wonderful scene than the latter. The heat of ten thousand barrels of burning oil, with the gas of a dozen wells, and the woodwork of tanks, engine-houses, derricks, buildings, &c., thrown in for kindlings, drove everybody half a mile back.

Of course, nothing could be done, to extinguish such a maelstrom of fire as this. When it came to a tank, or a little pond of water, the conflagration was only more terrific; the contest between the two elements added new and more terrible fury to the flame. All the fire engines in the world, playing on this fire, would not have stopped it. Water never can put out an oil fire. The only thing to do is, to confine it and let it burn itself out.

The fire was rapidly making its way down the hill, finding new material, and increasing its volume constantly. In its course, on the river bank, lay a town, and numerous big tanks of oil. If it reached there, it would destroy all this, and get volume enough to pour out on the river, and cover its surface with a sheet of flame, to roll down and destroy all below. No one could tell where the destruction of property, and perhaps life, would end, if the burning stream flowed on. Worst of all, no one seemed to know what to do; hundreds of men stood, as if paralyzed, by the horrors of the conflagration.

At this crisis, uncle Charley called all the men to follow him. He led them down the Run, below the fire, and began to throw up a dam, to stop the burning oil. This effort, at first, did not succeed. The fiery freshet reached them before they had got their work done, and drove them off. It filled the dam with a seething, roaring flood of flame, and presently poured over in a grand cascade of fire, and resumed its way to the river.

The men now went farther down, and selecting a spot between two high ledges of rocks, began to throw up another dam. The location was favorable, the time to work in longer, and as many fresh men were arriving every minute, there was more help, so they did much better execution. The spot was covered with men like bees in a hive, and as all were stalwart, hard-working men, mostly young, who were now fighting destruction off their own property, they did wonders. Before the burning stream had reached the spot the dam was done.

"Now," cried uncle Charley, "come up here, men, with your shovels!" They all followed him up to the top of the high banks of their impromptu dam. Here he had them collect piles of loose earth on the brow of the bank.

"What is this for?" asked several.

"Wait and see," said their self-elected leader.

In a few moments the first waves of oil and fire began to pour down the gulch into the dam.

"Now let's smother it!" shouted uncle Charley.

"Hurrah!" cried the men, when they understood the plan; "let's smother it!" And hundreds of shovels sent the damp, heavy earth down over the burning caldron.

This had more effect than any quantity of water could. It deadened the flame somewhat. The dam retained the stream until the fire burned itself out, sufficiently so that the fresh avalanches of dirt sent down finally covered and smothered it.

In this fire, twenty-eight wells and their rigs and tanks, and fifty thousand barrels of oil, were destroyed.

The Flag-and-Windmill Well was now ruined again. Its production had been steadily reducing, until, at the time of the fire, it was not paying largely. The fire finished it, and it was never restored.

Although the boys and their uncle lost a large amount in the fire, they had, on the whole, cleared enough money, so that each of the boys had \$9,500 of his own.

PART VI.

PROSPECTING FOR TERRITORY.— FINDING "THE BELT."

WITH the burning of the Flag-and-Windmill Well, uncle Charley, and Arthur, and Fred went out of the oil business in that locality. They sold their lease and went to search for other oil territory. They had become such confirmed "greasers,"—the boys, as well as their uncle,—that they were less ready than ever before to quit the business. The excitement of seeking greasy wealth, through all risks and obstacles, had become a necessity to them.

Several weeks were spent in looking for territory that promised to afford paying wells. In those places where the best wells had been found, the land had all been snatched up by sharp and early speculators. These men held their leases so high, demanding so large a royalty for their shares,—sometimes reserving as high as three fourths of all the oil found,—that the boys did not care to invest and take so many chances to get so little oil at last. On the other hand, where they could get favorable leases, the territory was not promising.

One day, in their prospecting for territory, they met a man who offered to tell them exactly where they could find a good well, by boring, if they would pay him five hundred dollars for the information.

"And how do you propose to get this information?" asked uncle Charley.

"By the direction of the spirits," answered the man.

"Well," said uncle Charley, "if you think that is a pretty certain way to locate paying wells, why don't you go into it for yourself? If you'll take a half interest and pay half the expense, we'll put down a well as you, or the spirits, direct." This the man declined to do.

At another time they came across another kind of "oil-smeller," as they are called. He took a forked stick, cut from a hazel-bush, and holding the two ends of the fork in his hands, with the joined end of the twig upward, he walked slowly over the land where it was supposed oil might be found. At certain points the twig bent slowly downward, from an upright position, until, without having turned the ends in the man's hands, it pointed straight towards the earth. He claimed he had nothing to do with its pointing down, and, in fact, that he was not able to stop its turning. In proof of this, he showed that the bark had been twisted and loosened where he held it in his hands.

This mystified the boys very much. They asked their uncle what made the twig turn down.

"The man says it is the oil in the ground that attracts it, and pulls it over, as the north pole does the needle of the compass."

"But *does* it? *Is* it oil?" asked the incredulous boys.

"Well," said their uncle, cautiously, "I never heard of hazel-twigs pointing out any rich territory. It is called witch-hazel, because people have supposed it had some supernatural powers, like a witch. But I have seen twigs from the peach and other trees act the same way. So I guess there is about as much witch in one tree as in another, and none in any of them, if foolish men let them alone. I don't go a cent on territory located by supernatural means. There are those who do, however, and they sometimes get paying wells, though not any more frequently, or any more surely, than where wells are located entirely by wild-catting."

"What is wild-catting?" asked Fred.

"What we are at. We are 'wild-cats,' prowling around the country, seeking to devour a good show," answered the uncle.

While this conversation was going on, the party had been sitting on a ledge of rocks overlooking a wild and romantic scene. The Alleghany River ran far below them, and they could trace its winding course for many miles.

Its white strip through the dark landscape of mountain and forest looked like a silver band on a velvet cloak, Fred said. Here and there the dark background was also speckled with white, where the steam of an engine showed a live oil well. On the other side was a wild ravine, down which a small stream fretted and roared. While uncle Charley and Fred were enjoying the scenery and commenting on it, Arthur was differently engaged. He was looking about him, but with a purpose in view. He became so interested in what he was investigating, that he left the party, and, going up to the top of the hill, climbed a tree.

"What are you after?" at length cried his uncle; "have you treed a coon? I should think you were 'wild-catting' in earnest."

"I am," said Arthur.

Presently he came down from the tree, and told them what he had discovered. He said that he had noticed that the point where they sat down was on a line between the producing territory on the river and that on the creek. By climbing the tree he had discovered, still further, that the puffs of steam from engine-houses, which indicated operating wells, were almost all in a line, sighting from the tree, both on the river and on the creek, six miles apart. Off that line there were many derricks, but no life; they were dry wells; engines and working beams were motionless. "Now, what does that mean?" thought Arthur.

"It means that those wells that are producing are on an *oil-belt*, as it is called. There may be two belts, one on the river and one on the creek. If both developments are on the same belt, and we are on the direct line between them, I shouldn't wonder if the belt runs right through under this spot."

Uncle Charley grew excited as he rapidly told this theory off to the boys. He was walking quickly towards the tree from which Arthur had descended, talking and gesticulating, as he went. He climbed the tree, and looked long and carefully over the many miles of territory spread out before him. In all that vast area the producing wells lay in one line, as Arthur had described. While there were hundreds of derricks in sight, the derricks of the *live* wells were in a line that he could look across almost as he could along a row of shade trees.

"I declare, boys!" cried he, excitedly, from his high lookout, "I believe we've struck a big thing. I believe we're on the same belt."

"How are we going to find out for certain?" asked Fred, when his uncle had descended.

"That's the question now before the meet-

ing," replied uncle Charley. "If the wells over the other side of the river and these up here on the creek are alike in depth, and appearance of oil, and of the rocks bored through, I should be inclined to think they are all on one belt. And, of course, if they *are*, all this territory, for six miles on the direct line between them, is on that belt also, and will be good territory, though no one suspects it now."

"Then we can lease this territory cheaply, if we want to, I suppose," said Arthur.

"Yes; or buy it out almost at our own figures. These 'Backwheats' don't know anything about its value," said his uncle.

"Backwheats!" said the boys; "what are they?"

"Ah," said his uncle, laughing, "that's a slang name some people give to the farmers and residents in the woods here. Their land is so poor it won't raise much but buckwheat; so the people live on it so much, they get that name." Uncle Charley acted as if rather ashamed of having used it.

"We are Buckwheats, then," said Fred. "Our land at home is as poor as this, and we eat lots of buckwheat; and I like it, too. And I don't care if you call ~~me~~ a Buckwheat."

They now arranged that Arthur should go up the creek, where the wells were pumping, and uncle Charley go over the river, and each find out all he could about the wells there. Then they were to meet and compare notes, and see if the wells in the two localities resembled each other.

They went. By questioning the owners and drillers of the different wells they learned what those men knew. In nearly all the shanties, or in the engine-houses adjoining the wells, or else in the offices of the owners of the wells, were preserved specimens of the different kinds of rocks found in each well. They asked for little specimens of these to compare with similar ones from all the other wells.

When they had collected all these facts and specimens they brought them together. It turned out as uncle Charley had suspected: these wells, six miles apart, separated by a mountain, were almost exactly alike. Therefore they concluded that they could find good wells all along the line, or belt, six miles between these developments.

They were so well satisfied of it that they determined to put down a well. So they went to the house of the man who owned the farm they wanted to lease. It was an old log-house. The spaces between the logs were filled with sticks and mud. The timbers of



PROSPECTING.

the roof projected several feet from the side of the house, and were loosely covered with slabs to make a "veranda" in front of the house. The hinges and latch of the one door to the house were wood. Numerous hats and garments were stuffed in the broken panes of the small windows. They stepped on the loose boards that formed the floor of the veranda, and knocked. A gruff voice from within pronounced the single word, —

"Walk!"

Not understanding this remark, and in uncertainty as to the first knock having been heard, they tapped louder on the door.

"WALK!" this time louder and gruffer than before.

They opened the door and entered. The owner of the farm was eating his dinner. His wife and two boys had apparently dined before; for he was seated alone at the table. The single room below was roughly finished and furnished. A fireplace in one end, and a ladder in the other, where the boys went up to bed through a hole in the loose floor above, attracted the visitors' attention.

The meal spread before the farmer consisted of one dish. That was fat pork swimming in its own grease. There was no bread, butter,

potatoes — nothing but that one dish. The farmer scraped the entire contents of the dish on his plate, and ate it.

He was a thin, dark-complexioned, uncombed, elderly man. His boots were not mates. He wore no vest: his suspenders were a compound of tow-string and leather. One of them had a sort of buckle, the tongue to which was gone. In place of it he stuck a shingle-nail through the strap, to hold it. When he wanted to take a hitch in his suspender he would move the nail up one hole.

Uncle Charley commenced negotiation by asking the farmer how much land he owned.

"Wal, I consider there's clus ontw two hundred and sixty acres on't," replied he.

"Do you think any of it will ever be oil territory?" asked uncle Charley.

"Reckon not. How could ile git up so fur's this? Guess we'll alwus be scace on't for ile up here."

"Wouldn't you like to let some one test your land for oil, if it cost you nothing?"

"Dunno but I mout, if he didn't git too near the house, and spile my yard."

His "yard" was a patch of weeds in which several long-legged, long-nosed pigs, and two

or three thin calves, and a multitude of geese pastured.

"Well," said uncle Charley, "I don't know as there *is* a foot of oil on your farm; but they are finding oil in a good many queer places now, and no one knows but we might happen to strike a smell even up here. We've got a little money to throw away on an experiment, and if you've a mind to give us a lease, we'll sink a hole to venture. What do you say?"

The farmer bit a large piece off a big plug of tobacco, took out a huge jackknife, and commenced to whittle at the side of the house, and finally, turning to his wife, said, —

"What d'ye say, old woman? Would you let 'em bore a hole in our land?"

The "old woman" didn't like the idea. She said, —

"S like's not the critters'll be falling down the ile well, 'n gettin' drowned."

At this, Fred, with a boy's irreverence and love of a joke, laughed, and said to Arthur, "he presumed they would if they were all as small as those out in the yard." The farmer did not hear this remark plainly; so he leaned forward, and looked at Fred, and said, —

"Hay?"

Fred looked confused, and made no answer to the interrogatory. Then the farmer said, bluntly, —

"Youngsters should be seen, and not heard."

Then, resuming the subject, he said, —

"I am afeard ye'll litter my farm all up; and if you strike one of them flowing wells, everything will be all daubed up with ile. I won't have the looks of my farm spiled in that way."

These and many other similar objections uncle Charley talked out of the way, and at last got them to consent to make a lease. After this was done, he had still more objections to overcome, to get them to put into the lease an "option clause," by which they would give uncle Charley the power to *buy* the farm at any time within a year. This was finally arranged by putting in the option clause with the price stated at one hundred dollars per acre, which uncle Charley should pay, if he decided to buy the land. The farmer said his land was worth, for farming purposes, about ten dollars per acre; and he thought, when he put in the price at one hundred dollars per acre, he had got it so high there was no danger of these meddlesome Yankees ever paying that sum, and taking his farm away from him, which calamity was the thing he sought to avert.

Even then the old lady did not think they were entirely safe from scheming strangers seeking to pay them ten times the value of their land. She "was afeard they'd be shunted clean out o' house and hum." So she insisted they should leave out of the contract their house and barn (a low shed), and five acres of land, which could not be sold. To please her the contract was so drawn.

It took two or three days' negotiation to talk them into the agreement and get the papers signed. They immediately let the contract to have the well drilled. They employed a surveyor to run a line directly from the biggest wells on the river to the best ones on the creek. He marked the line by "blazing" the trees that grew upon it. "Blazing" was done by cutting a chip out of one side of a tree with an axe. While running this line through a ravine on the farm they had leased, they discovered a coal mine. This gave them cheap fuel to run their engine with. Other wells were supplied by hauling coal up the mountain from the river — a tedious and costly business.

All indications were favorable, as the well went down. In about three months they had gone down nine hundred feet, and the flow of gas and "show" of oil from the second sand was large; so much so, that they felt sure of success.

The old farmer did not share their hopes. He came occasionally to see how they were getting along, and to tell them they "couldn't find nothin'."

Uncle Charley instructed the boys and the drillers not to try to persuade the farmer into hopefulness of success. They rather took the same despondent view of it that he did. Meantime, uncle Charley was carefully talking him around to completing the sale of the land. In fact, the old farmer was so sceptical as to the oil prospects of his land, that he consented, before the well was down, to sell the whole (except five acres and his house and "barn") for seventy dollars an acre, and thought he had a good bargain at that.

While this negotiation was in progress the work of drilling had stopped. The drillers announced that the tools were fast in the well, one thousand feet down, and spent several days working over it. As soon as the sale was made, the drillers succeeded in bringing out the tools. Uncle Charley was there when the tools were drawn, and the men told him there were "five hundred feet of oil in the hole;" by which they meant the well had already filled with oil to that depth.

PART VII.

FLAG-AND-WINDMILL WELL NO. 2.—
CONCLUSION.

THE well was speedily finished, the pump and tubing put in, and, in a few days, the well was pumping steadily at the rate of forty-four barrels per day. This strike was the greatest fortune the "boy operators" had enjoyed. As the land itself belonged to them and uncle Charley, they owned *all* the oil produced.

As soon as the news of this strike on a "new belt" had got abroad, — which it did very speedily, — crowds of operators and speculators came to see it. Every one was astonished to see such a well in such an unexpected locality. The boys and their uncle were overrun with applicants, eager to get leases, and give the owners half the oil. As the excitement increased, higher offers were made for leases, until several offered to pay two thousand dollars for the chance to put down wells, and give half the oil obtained. This extra price offered for the privilege of a lease is called a *bonus*.

Uncle Charley now called the boys into the engine-house, and said, —

"Well, boys, we've got a big thing. The well is a good one, and, what is better, we own all the territory near it. Now, what shall we do? Shall we go on and put down the wells, and thus secure *all* the oil for our share? or shall we give other parties half the oil, if they will be at the expense of sinking wells? Shall we develop the territory ourselves, or lease it?"

Arthur said, "What bonus can we get for leases?"

"Three thousand dollars on each acre lease is now offered," replied the uncle.

"And how much does it cost to sink a well ourselves?" asked Fred.

"About five thousand dollars," he replied.

"So," said Arthur, "if we give leases, we get and save, together, on each acre, eight thousand dollars."

"Eight thousand dollars," repeated his uncle. "And we run no risks."

"But, then, we get only half the oil," put in Fred. "So we do run a risk of losing half the oil on a good well. We don't know but we may strike a two or three hundred barrel well."

"That's so," said his uncle. "And, if we should, half of the oil would pay all the expense of sinking the well in a short time."

"I think," said Arthur, "that we had better put down more wells ourselves, until we find out what kind of a belt we have got. If it improves, we can make better leases than we can now, with only one well down. If it proves no better than at present, we can always make plenty of money out of it, either to hold and develop for ourselves, or to lease to others. We have money enough to put down half a dozen wells."

"For that matter," said his uncle, "this well will furnish all the capital we need to carry on our operations."

So they agreed to grant no leases at present, but to go on and sink more wells for themselves. They therefore announced to all applicants that there was no territory to sell or lease on that farm.

The operators immediately bought — or leased, if they could not buy — all the farms around the new territory. As most of these were not on the belt which Arthur had discovered, — the operators not being possessed of the secret of its location, — but little of the territory produced oil. A narrow belt of land, north-east and south-west of the one the boys owned, proved to be rich territory. All the rest showed dry holes.

"What are you going to call this well and farm?" asked Fred.

Arthur said he would like to call the well "Flag-and-Windmill Well No. 2," in remembrance of their first fortune in oil.

"That is all right," said his uncle. "And, as you first discovered this belt, I think we'd better call this the 'Arthur Tract.'"

Arthur felt highly complimented by this, but said he'd like to have Fred's name mentioned in some way.

"O, we'll give Fred's name to the next big well we strike," said uncle Charley.

Fred said that was satisfactory.

They now let the contract to sink three more wells, near the Flag-and-Windmill No. 2. In prosecuting this work, they hit upon one or two plans that economized the work and saved them a large sum of money. With the oil from the Flag-and-Windmill Well No. 2 an immense quantity of gas came forth. It rose from around the casing, and from the tank into which the oil was pumped, looking like waves of hot air from a furnace, or from the surface of the ground on a sultry day. To secure it from spreading and taking fire from the engine-house, they had connected a pipe with the well, and conducted it a hundred feet away. They then set fire to it at the end of the pipe. It burned with a body of flame as

large as a hogshead, and twenty or thirty feet long, with a roar like escaping steam from a large boiler. It made a light that could be seen at night ten miles away.

One day, as Fred stood looking at this flame from a safe distance, the idea occurred to him, "What's the use of wasting all this fuel? Why can't we make use of it, and save coal?"

He immediately proposed the plan to his uncle. Uncle Charley declared it was just the thing, and muttered to himself, —

"What an idiot I have been not to think of that before! It would have been twenty-five thousand dollars in my pocket by this time."

The engineer, to whom they submitted the matter, said he thought it would work, and added, —

"You have gas enough to heat a boiler for a dozen engines."

"There's another good idea," exclaimed Fred. "Instead of buying a boiler with each engine, why not get one boiler that will make steam for four or six engines? Will one big boiler cost as much as six small ones?"

"Not half as much," said his uncle. "And it will save an engineer at each well. One man can run four or six engines, with one fire. Fred, that's a good idea. You're a trump."

Although Fred didn't know exactly what kind of an animal a "trump" was, he understood he'd suggested a valuable improvement.

It proved to be so. The big boiler was bought, and three engines without any boilers. By purchasing in this way, they saved twelve hundred dollars on the start.

When the boiler was set, a small pipe for gas was laid into the furnace under it. When the stop-cock was turned, and the gas lighted under the boiler, it filled the furnace and flues full with roaring flames. It made steam very fast, the heat was so intense.

When they first started this supply of fuel, they had an explosion. They had to uncup the casing, to make some alteration in the tubing, which allowed most of the gas to escape at the opening of the well. The pressure was thus reduced in the gas-pipe, and the current was not strong enough to feed the flame, and keep it clear at the end of the pipe. The flame followed the stream of gas into the pipe, and blew up the whole length of it, and set fire to that around the well. The result was a fire that burned the derrick. It stopped itself, nearly, and in this way: The iron cap that screws on the top of the casing was lifted only a little, at the time of the explosion, and held up by a chip placed under it. As soon

as the chip burned, the cap dropped of itself, and stopped all the supply of gas, except what came from one opening. This was very easily stopped by shovelling damp dirt upon it. As this was not a flowing well, there was no oil to supply a fire. A conflagration of gas alone is easily managed.

When they got repairs made, and the pipe laid to the boiler again, they put in the pipe a valve, called a check-valve, which, by closing as soon as a back-flow of gas set in, would check it. The check-valve opens only for a strong current of gas running from the well.

By laying steam-pipes from the big boiler to the different engines, an abundant supply of steam to run them all was furnished. As the gas cost nothing, there was no expense in making steam.

Nearly as many people came to see this new contrivance, as if it were another big strike. Of course they all asked, "Who was the smart chap that thought of that?" When the boy Fred was pointed out as the inventor, people were still more surprised. The engineer got some paint, and lettered the big boiler, —

Fred's Patent Heating Apparatus.

He intended the "patent" part of it for a joke; but half the visitors believed it was a patent; and one sharp man tried to buy the right to use it for all the Oil Country. Fred frankly told him it was no patent, and any one could use it without fee. The drillers told Fred he was a fool; that he ought to have sold the man the right, if he was green enough to buy it.

"No," said uncle Charley, who overheard the remark; "Fred was right, morally and legally. It would have been both dishonest and illegal to sell a fictitious right. It would have been fraud, and Fred would have gotten into trouble if he had done it. So you men, that are ridiculing Fred for not cheating, are really the foolish ones — not he. I'd advise you never to try to live by your wits dishonestly. You'd soon play out for want of capital."

The men looked rather cheap and crest-fallen at being thus reproved for lack of both honor and brains.

The new wells proved to be all good ones; one of them flowed one hundred barrels per day when first struck, and finally settled down to pumping seventy-five steadily.

Operators now were willing to pay as high as a five thousand dollar bonus for a lease. Thus the decision of the owners of the Arthur Belt to develop their own territory proved a wise one.

They were soon getting so much oil that they had to provide a pipe line to pipe it to the railroad for shipment. A pipe company wanted to lay this line for them; but they decided, as in the matter of developing the farm, to do their own business, — or, as uncle Charley expressed it, to “run their own machine.” They had capital enough to construct the pipe line, tanks, and shipping-range at the railroad, and had already steam enough, free of cost, to operate the force-pump to send the oil over to the shipping-range. So they constructed the pipe line, and thereafter it cost them nothing to ship their oil.

They presently built a neat house for an office of their extensive business and a residence. Arthur wrote home for his sister Nelly to come and manage the house for them, promising her a half interest in a good well for her salary as housekeeper. Nelly came, and made a very happy home for them, and a handsome little purse for herself; for both her brothers and uncle insisted on sharing their good fortune with her.

They now had on the Arthur Tract a very complete petroleum farm. With the land and all the wells belonging to them; an abundant production of greasy wealth; the almost certain promise of more, whenever they pleased to bore more wells; a well-systematized, carefully and economically managed business; a transportation line also belonging to them, arranged conveniently to throw oil from any well on to the oil cars three miles away, at any moment, — they had the snuggest establishment, and the best prospect of great wealth of any firm in the Oil Regions.

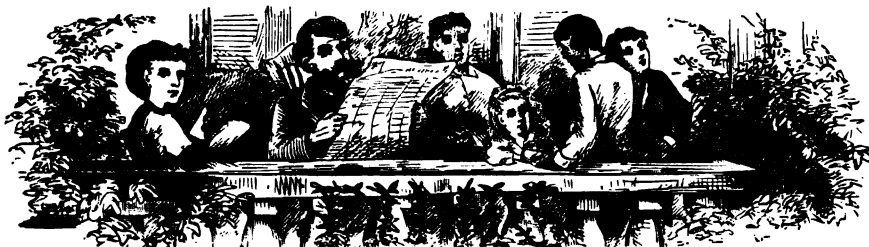
Besides, they had a very pleasant home in the mountains. Home comfort is a thing much lacking in petroleum life. They fitted their house up elegantly, as became young oil princes. Pleasant grounds were enclosed and beautified; abundant springs from the mountains above supplied them with fountains and fish ponds, which Fred took pains to have abundantly stocked with trout. The wild, romantic scenery, pure air and water, added to

the pleasure of all this wealth and comfort, as well as contrasted with it.

Arthur, Fred, and Nelly were now so happy and prosperous that they only lacked the company of their parents and little Lulu to make their contentment complete. After much persuasion, — by mail, — the family was finally induced to sell the Massachusetts farm, and remove to the Oil Regions. Each one, Arthur's father included, was given certain duties to do. Mr. Sears, being a good mechanic, was given charge of all the engines and boilers, and other machinery on the farm. It kept him pretty busy to see them all kept in order.

One of the numerous wells they sank produced no oil, but it did send forth prodigious volumes of gas. It came out with a pressure that roared like steam, and could with difficulty be controlled. Mr. Sears thought this powerful pressure could be used to some good purpose. So he conveyed the gas in a pipe into the force-pump, used for piping oil. To his satisfaction and the astonishment of everybody, the gas, when turned into the cylinder, operated the pump better than steam. Pipes were now laid to the engines, and the pressure proved sufficient to run them all. The steam-gauge showed the pressure of gas to be over two hundred pounds to the square inch. Thus boilers and fires were abolished, and all the machinery operated by a power furnished from the same source with the oil.

They now had an establishment not only rich in oil, but one it cost nothing — or almost nothing — to work. With the certain prospect of immense wealth before them; with pleasant home surroundings; with enough to do to keep them healthy and contented, and not so much to do that they could not go upon pleasure excursions, and take occasional trips to Europe; with plenty of means, so that they could enjoy the luxury of doing good, — in which best way of all they spent much money, — all of them had abundant cause to bless the day they came to Petrolia, and to thank the good Father above for the abundant blessings they enjoyed.





HALUYON DAYS.



SAM SUDDENLY DESCENDS. Page 72.

AMONG THE RAFTSMEN.

BY FRANK H. TAYLOR.

I.—MAKING RAFTS.

IN Western New York and Northern Pennsylvania the large pine forests, which once covered the greater portion of these sections, have been cut down and converted into lumber, and floated down the Alleghany and Ohio Rivers, to be used in building the cities upon their banks. Some of the lumber has even been carried to New Orleans; and we may, perhaps, find in every city, from New Orleans up the Mississippi and Ohio to Pittsburg, lumber which grew far up among the hills of Western New York. Where this timber once grew are now rich farms. Villages of from two to ten thousand inhabitants have arisen upon the site where the old pilots who now run the river once cut timber for their rafts.

But the want of pine timber is already being felt, and hemlock is taking its place. Trees that fell centuries ago, and were left as worthless by the first timber hunters, are now dragged forth from the places where they have lain so long, and all available portions of them used. Logs that have lain unnoticed until the greater portion of them has decayed, are used for shingles.

But the raftsmen still keep their vocation. Each spring the river carries down thousands of feet of lumber to the Ohio and Mississippi cities, and all through the year car-loads of timber are shipped east and south. The old race of raftsmen, however, is disappearing, and with it many of the incidents of the rough life which lent a peculiar charm to a trip "down the river."

Fights with the inhabitants were then an every-day occurrence. They replenished their tables with fowls from hen-roosts and mutton from the flocks of sheep by the river-side. Foraging is continued to this day; and it is not considered a theft by the raftsmen to appropriate to their own use any stray animals or fowls they may have the good luck to find.

And with this preface we introduce our readers to our heroes, and follow them down the river.

Lawrie and Clare Norton were city boys, twins, fourteen years old, and were spending the winter and spring with their cousin, Sam Norton. Their uncle was part-owner of a steam saw-mill and a lumber-tract; and they enjoyed themselves in watching the transformation of the huge pine trees from their fall in the forest until they were thrown from the mill in the shape of boards. All

winter men with teams had been busy at work, felling and drawing the logs, working from four o'clock in the morning until long after dark at night. The mill had not ceased work, except on Sundays, through the whole season. Two sets of hands were employed at the mill, one working through the day, the other at night.

The mill-yard was filled with huge piles of boards; and in the latter part of winter a new set of men and teams was hired to draw the lumber to the creek.

"We shall be rafting to-morrow," said Mr. Norton, one evening, "and if you boys wish to see the work, come down with some of the teams in the morning."

"What time do the teams go?" asked Sam.

"The first loads go at four o'clock. But you can eat breakfast, and come down on some of the second loads."

The boys were up early in the morning, and, eating a breakfast of buckwheat cakes and mince pie, hastened to the mill-yard.

Here was a busy scene. Teams were coming and going at all times. The men upon the board-piles were kept busy shoving off the boards upon the sleds, which were backed up to the piles. They grasped a board at the opposite end from the sled, and, with a twitch, sent it upon the load, where it was quickly put in place by the loader.

The loads were built nearly five feet high and five broad, each load containing over two thousand feet of boards. When the load was finished, it was bound on with chains, and a binding-pole, twisted through the forward chain, was bent down and fastened behind. The horses were immediately whipped into a trot, and the huge load swayed from side to side over the rough road, sleds creaked, drivers hallooed, and the vacant place was immediately filled by another sled.

The boys mounted one of the loads, and seated themselves on the boards. The greater part of the road was slightly descending, so that the horses did not pull in the least, and were constantly trotting. Where the road went through a gutter, or up a small pitch, the horses were put into a gallop, and the impetus carried them over it.

At the foot of one of these hillocks was a sluice, where the water ran through, and over which a few boards had been placed. These had been worn smooth by the continual passing of teams, and made a jump in the road.

"Take care of yourselves now," shouted the driver, as he started the horses down the pitch. "There is a jump at the bottom here."

But instead of jumping, the last sled struck the boards, shoved them ahead, ran against the opposite side of the sluice, and stuck fast. The horses had gained such force in the run that they snapped the double whiffletree like a cord, and dragged the driver off the front of the load. He alighted upon his feet, however, and quickly stopped them.

Sam had been sitting on the edge of the load, with his feet hanging off, and the sudden shock threw him head first into a snow-bank, where only his feet were visible. He was quickly dragged from this position by the driver, and set upon his feet, puffing, and very red in the face.



"I'll show you youngsters a trick with rough materials."

"Well, young porpoise, how came you there?"

"Why, your stopping was rather unexpected, and I followed the natural law of gravitation." Sam had read Isaac Newton. "Just let me know a little beforehand when you propose to stop again, and I'll be ready to stop too."

"Now you've got to go back," said Clara, as he looked at the broken whiffletree.

"Don't be so sure," said the driver. "I'll show you youngsters a trick with rough materials."

He took an axe, one of which was with every sled, and went into the woods. He soon returned with a beech stick about three feet long

and six inches through. This he hewed down upon each side, until it was about an inch and a half thick.

"Now don't you think I can get along?" asked he of Clare.

"Have you an auger?" asked Clare.

"No."

"Then you can't make the holes."

"See here," he said, cutting a notch in the side of the stick, near the middle, just deep enough for the draw-bolt to set into. Then, upon the opposite side from this notch, and about two inches from each end, he cut two holes large enough for the single whiffletree-bolts.

"There, it is all made," he said, and proceeded to put it in its place. The whiffletree was so wide that when the clevises were fixed in place they could not slip off the ends. "That is rough work, but better than to waste half an hour in going after a nicer one."

When the boys arrived at the creek, they found a scene as lively as the one in the mill-yard. The boards were unloaded on the bank of the creek, where men were busily engaged in placing them on the rafts.

A raft had just been begun, and the boys went down to the edge of the water to watch the work. A large number of odd-looking sticks were lying about the bank, fashioned like a cudgel, about three feet long, and with a large knob at the end. Lawrie asked one of the men if they were shillalehs.

"Yes! a raftsmen's shillaleh," he replied; "but they go by the name of *grubs* here. We use them in the place of nails and bolts, to hold the rafts together."

"What are they made of?"

"Oak saplings. We cut off the top of the sapling about three feet from the ground, and then cut and grub them—that gives them their name—out of the ground, leaving a large piece of the root on, to form a shoulder or head. The stem is trimmed down to fit an inch hole.

"But how do you use them?" queried Lawrie, determined to trace the grub through all its changes.

"Watch us begin this raft, and you will see their first use."

Three planks had been laid down, parallel to each other and eight feet apart, while they were talking. Each plank had three holes in it, one at each end and one in the middle. Through each hole the raftsmen fixed a grub, with the head under the plank, forming a square of three rows of grubs each way. The planks were fastened together with three

boards, bored with holes like the planks, for the insertion of the grubs. These were laid across the planks, a board to each row of grubs, and thus the bottom of the forward part of the raft, or the first platform, as the raftsmen call it, was made. This platform was pushed into the water, and another one commenced by inserting the grubs at the end on shore into the end holes of three other planks, and these were connected together by boards the same as before. This made a raft thirty-two feet long and sixteen wide, or two platforms. Three more platforms were added to these, forming a raft nearly eighty feet long, some of the length being taken up in lapping



"Then just run to the lower rafts and get us an axe."

the ends of the planks together. As fast as a platform had been laid, the men pushed the raft farther into the water, and now it stretched far down the stream, looking like a huge ladder with cross-boards every eight feet.

The raftsmen now began to lay boards across the planks, to form the first tier or bottom of the raft, commencing with the last platform made.

"Now they're filling up the space between the rounds of the big ladder," said Sam. "Won't it be a nobby place to run on when they get it laid clear through?"

"Are you good on the run?" asked one of the men.

"Yes, sir," replied Sam.

"Then just run to the lower rafts and get us an axe."

Sam looked disconcerted at their putting his running powers to use, but started off when the men added that, —

"Boys must be useful as well as seen."

When the boards had been laid to the end of the first platform, three more boards were put on the grubs, two at each side and one in the middle, and directly over the planks first laid down. Thus the first tier of boards was laid between the planks below and the boards above. The space between these boards was now filled up, the boards being laid directly across the tier of boards below, and thus alternately with each tier and platform.

When five or six tiers had been laid in this manner across the whole of the raft, the men proceeded to straighten it, for each particular platform had taken its own course, turning upon the grubs as if they were pivots.

To do this, boards about twenty-three feet long were used. Holes had been made in these as in the other boards, and they were put on from the middle grub on one platform to the opposite one on the next platform. The end of each board was lapped on the ends of the middle grubs; and this combination throughout the whole raft brought the sides into a perfectly straight line. The straightening boards were then taken off, and the work of laying the tiers resumed. From eighteen to twenty tiers form a raft. When a raft was finished and tied to the bank with cables, they hung the oars. Clare and Lawrie were looking for the oars as the men spoke of hanging them.

"Can't I get them for you?" asked Lawrie, willing to help, and thinking they were on the bank.

"Well, yes," said the foreman, Mr. Ames. "You will find them just beyond the boards, on the bank. Bring them down here, and I'll give you a cent. You other boys may help him."

Clare started, but Sam only grinned, as if in expectation of some fun. The boys could see no oars when they reached the place indicated. There were only some long poles, with big boards pinned to the ends, and which Clare said looked like liberty poles with guide-boards nailed at the larger ends.

"We can't find them," shouted Clare.

"There they are. Pick them up and come on," said Mr. Ames, coming up, and pointing to the long sticks.

The boys looked at him in astonishment.

"Those big sticks oars?"

"Yes; but you don't seem to think you can lift them."

"We didn't eat an over-large dinner, and don't feel very stout; so I guess we won't try it," said Lawrie, laughing.

"Well, take hold, men, and carry a couple down to the raft."

The men lifted the oars upon their shoulders, and placed one at each end of the raft. Oar-pins were then fixed in the raft for the oars to swing on, and a large hole was bored in the oar to fit it. The oar-stem was nearly forty feet long, eight inches in diameter at the large end, where the paddle-board was fixed, and



"There they are; just pick them up and come along."

tapering down to a handle at the other end. The paddle was a board six feet long and two inches wide pinned on the large end of the oar-stem. Hanging the oars consisted in placing them upon the pins; and when this was done, the raft was completed, except its cargo.

The boys wondered how the oars could pull the raft along when at the ends.

"Does the raft go sidewise?" they asked of Mr. Ames.

"O. no. We let it float down with the current, and only use the oars to keep it in the stream. They are just the same as rudders to a ship," he replied.

"You'll make raftsmen some day," said Mr.

Ames, as they were going home that night; "and a good, healthy life it is, too. A sick raftsman is as rare as a June snow-bank."

"But it is all on account of the exercise and early rising," said an old man, who had run the river for years, and was the pilot of the rafts. "Scholars in schools can be as healthy if they would only work a little each morning. Laziness is as much a disease as fever, and kills more men."

"There won't be no chance to-morrow for laziness," said Mr. Ames. "If the wind speaks true, we'll have a storm before morning. If a rain-storm comes and takes off the snow, there'll be such a flood as we haven't seen for years."



"The creek is rising."

"If it does rain," said the pilot, "you boys better drop down and see us. It will be a sight you'll never forget."

The boys promised they would, for they saw the old pilot took an interest in them, as such rough men do in all boys who do not put themselves forward too much.

"I guess exercise does make an appetite," said Sam, while eating supper. "It gives the victuals a good relish, at least."

"I should think so by your eating," said Clare.

"Well, I should like to eat enough to carry those oars to-morrow," laughed Sam.

Sleep came quickly to the boys' eyelids that night, for the long day's work had made them

tired; but Clare said, as he lay down, that it was worth a day's hard work to have such a pleasant feeling of rest.

Lawrie was awakened in the night by a shouting, and springing out of bed, he heard the rain falling on the roof, and saw the gleam of lanterns in the yard. Going to a window, he heard a man calling to his uncle, who soon appeared.

"The creek is rising," shouted the man, whom Lawrie recognized as Mr. Ames, "and we must go for the rafts if we expect to save anything."

"How long has the rain been falling?"

"Nearly six hours, and steadily, too. The gutters and roads are full of water, and the creek will be over banks before morning."

Lawrie awoke the boys, and, hastily dressing, ran down stairs to the kitchen, which was full of men.

"Let me go with you, uncle," said he to Mr. Norton, who was putting on his oil-cloth overcoat.

"Whew! What are you out at this time of night for? And here are the other boys. Why, you'd get drowned if you went; the rain itself would carry you off."

"Let them go," said the voice of the old pilot. "Boys won't be easy at home when there's anything exciting going on; and I'll warrant they'll take care of themselves."

"Well, get on your overcoats, and take a bite of something to eat, while we bring out the horses. But you mustn't be getting in the way," said Mr. Norton.

The boys promised they would not, and were ready to go as soon as the horses were at the door.





THE BOYS TAKE A BATH. Page 79.

AMONG THE RAFTSMEN.

BY FRANK H. TAYLOR.

II — RAFTING.

IT was raining furiously, and the rush of waters could be distinctly heard in the woods, sounding like the rumbling of cars. It was so dark that nothing could be seen beyond the light of the lanterns which the men carried. The feet of the horses splashed in water at every step, and at times the wagon would drop into a sluice nearly to the box, where a bridge had been swept away. The boys were greatly excited with the romantic scene, and only hoped the water would rise higher.

"It will be high enough, my lads," said the pilot. "The rain itself would be sufficient to raise the creek; but you see there is snow enough on the ground to make as much water as has fallen. Where you saw the large banks of snow yesterday, there won't be enough left to make a snow-ball by morning. I remember a flood we had two years ago, when the snow was no deeper than now, and in six hours from the time it commenced raining the creek was overflowing its banks.

"A small brook, which was dry the greater part of the year, rose so suddenly that it car-

ried away the larger portion of a village on its banks, and one whole family was drowned. The stores and churches were moved into the middle of the streets. One church floated against a hotel, moved it from its place, and stopped on its walls, while the hotel went down the stream.* The creek was full of hay, grain, and lumber for days afterwards, and some people made a rich harvest by gathering them.

"But see," he exclaimed, as they came to a place where the road ran on the edge of the creek, "it is full banks already;" and he swung his lantern out towards the water.

The boys could see the black, turbid water rushing along, boiling and foaming, and now and then splashing up into the road where they were riding. Its surface was covered with pieces of boards, floating trees, and chips; and the rafts were stretching the cables far down the stream.

"We must send the horses back immediately," said Mr. Norton, springing from the wagon, "or the water will catch them."

The men alighted, and the horses were sent home.

"Now, work with a will, men," said Mr. Norton, "for we will have all we can do to save our lumber before the water comes up."

* A fact.

He called the boys to him, and gave them the lights to hold.

"Follow the men," said he.

Large piles of boards were still unrafted, and were in danger of floating down the creek as soon as the water should reach them. Some of the rafts were not completed.

"These must be finished first," said Mr. Norton. "Lay hold of the boards, and we'll beat the water yet."

The men rapidly transferred the boards from the piles to the rafts, each one working with a will. When one tier of boards had been laid the whole length of a platform, another was commenced by other men, to be followed



Building the fire.

by another; and thus several tiers were being laid all at once, one set of men following quickly after another, and each striving to get their platform on to the heels of those ahead. Bets were freely made among them; and oftentimes the forward men were but a board ahead as the platform behind them was finished. The boys caught the excitement, and wished to help on the rafts.

"Build a fire," said Mr. Norton, "to light us by, and we'll give you work."

They placed the lanterns where the men could see, and commenced gathering materials for the fire. Pieces of boards lay all about, which they quickly collected into a huge pile; shavings were whittled, and a light applied.

The wood was wet, and the fire sputtered and snapped in the rain, which was still falling; but some pitch-pine knots were soon in a blaze, and the fire leaped up through the darkness. The boys felt the sublimity of the scene, as the huge fire sent its glare far out over the waters, lighting up almost to the lowest raft, revealing the rough forms of the raftsmen moving swiftly about, the rushing waters swaying the rafts to and fro, and throwing deep shadows just beyond its farthest limits.

All the boards had now been carried upon the completed rafts, which were drawn up beside the others, and Mr. Norton called the boys to push the boards from the piles to the raftsmen. The rafts were so near each other that the boys had only to swing the boards around, by balancing them across the pile, so that the raftsmen could grasp the end and pull it to them. At last only one raft was left uncompleted, and all hands were at work on it.

"Why, it is growing darker," said Sam. "Our fire is going out. We'll go and fix it up."

"It's the water," said Clare; "don't you see, it is putting the fire out? Uncle, the water is rising!"

"So it is!" said he, as he saw the waves about the fire. "It is rising fast. Get the lanterns."

"We left them by the fire," said Sam. "They're in the water before now."

"We'll be left in the dark, then. Here, get into this boat, and see if you can find them. It will be a pretty fix if we have no light."

There were a number of boats tied to the rafts, and the boys sprang into one of them. They could all row well for their age; so Mr. Norton did not fear to trust them with the boat.

The fire was fast dying out, only the higher sticks burning, and every moment some of these were falling into the water. The boys rowed the boat to where they thought the lanterns had been left, and Lawrie, reaching over the stern, attempted to find them. He could not touch bottom.

"Hand me a stick," said he; "the water is too deep."

Splash went another brand into the water.

"Come, hustle," said Sam, "or we won't have enough light to see to tip over by, in a moment."

Lawrie felt around on the bottom, but could touch nothing.

"The boat is drifting away," said Clare; "give it a push."

Sam dipped his oars, and one of them struck something metallic.

"There's one," said Clare; "your oar hit it."

"I've got it," said Lawrie, as the boat swung around; "and here's another."

"And there's the light," said Sam, as the last brand fell into the water, leaving them in darkness.

"Row this way," shouted Mr. Norton; and guided by his voice they reached the rafts. A light was soon produced.

"Now we'll put extra cables to the rafts, and wait until morning. It will be daylight in half an hour."



"I've got it."

Cables were fastened to the grubs on the rafts, the end put into a boat and carried to trees on the bank, where they were made fast. Some of the rafts were tied to each other, side by side, and all were brought up close together.

The boys made a rough shelter of boards on one of the rafts, and lying down under it on some oil-cloths, listened to the falling rain and rushing waters.

"Wouldn't mother be scared if she knew where we were now?" said Clare.

"I guess she is thinking of us," replied Lawrie.

"More likely dreaming of you at this time of night," said Sam. "Isn't it splendid, though? It reads like a book. Here comes the old pilot."

"We're going to have a big one," said he,

sitting down under the boards. "The whole creek will be a lake before night, and you boys can make some spending money by catching lumber to-day. There will be thousands of feet come down the creek from the mills above."

"This will be a splendid time to start down the creek — won't it?" asked Lawrie.

"Not much. If we started now, we'd be more likely to land in the middle of some meadow than at Cincinnati. The wind and current would carry us out of the creek and into the woods, in spite of the men."

"When will you start?"

"When the creek begins to fall. You see, while it is rising, the currents run from the creek, and when it is falling, the water turns and runs towards it. So there will be no difficulty in keeping a raft in the centre of the stream while the water is falling."

"How long will the water stay up?"

"I have seen it over the flats four weeks; but this freshet will probably subside in less time, as it has arisen so rapidly. I think we may start in two weeks."

"Won't it be jolly? Uncle has said we may go with him, and aunt is going too."

"Yes; ladies go down the river very often now; but I've seen the day when such a thing would be thought impossible. But women do help to make the trip more pleasant, and it keeps the men in mind of their own wives. But now we'll see how the water looks."

The boys had been lying down, with their heads covered, and when they roused up, they saw it was quite light. The men were out in boats, fixing the rafts, and making new tying-places, or catching boards and logs that were floating down the stream. To the surprise of the boys, nothing could be seen of the road, and only an opening through the trees showed where it was. The stream, which was only a few rods wide the night before, was now stretching half a mile on each side, and still rising. They could see that the snow was nearly gone from the hills, only a few snow-banks being visible. It was still raining slowly. The water looked black and muddy, and large cakes of ice and creek rubbish were being borne out from the stream by the current which settled landward.

"Here comes some timber," shouted one of the men; and looking up the creek, the boys saw a mass of boards floating down.

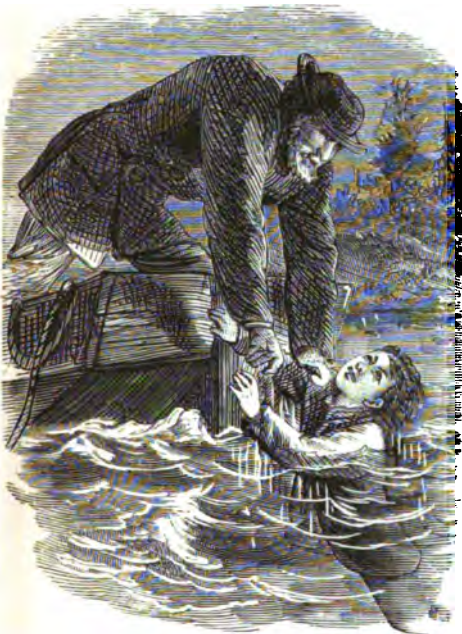
They were lying in every imaginable position, piled one on another, sticking out from the sides, and mixed with branches of trees and old rubbish. Some of the boards had dropped off, and were floating around it.

"Jump into this boat, boys," said the pilot, "and we will help bring it in."

The pilot threw some ropes into the boat, and followed the other men. The lumber was setting in towards the land, and was some distance from the bed of the creek. As they approached, it looked like a pile of boards which had been well "stacked," but had been torn to pieces coming down the creek.

"Take the end of the rope, and jump on the boards," said the pilot to Sam and Lawrie, who sat in the bow of the boat, as they touched the pile. "Now hitch it to some of the boards."

The boys made an opening in the top among the loose boards, and found a plank near the middle, to which they tied the rope. The other boats did the same.



"The pilot pulled him into the boat."

"We'll stay on here," said the boys when the ropes had been hitched to rings in the boat. "We can ride here well enough, and see to the ropes."

"Take care, then," said the pilot, as the boats started. The pile dipped and pitched like a ship at sea as the boats pulled it along; and the boys found it was not easy to keep their balance. The bottom boards would sometimes touch the ground, and swing the pile around with a jerk, nearly throwing them off. As they neared the rafts, the limbs of an old tree which lay in the water caught in the cracks at the bottom, and the next moment the pile sep-

arated. The boys stood near the middle, and the ropes jerked the boards from under them so quick, that they were flat on their backs. They eagerly clutched the boards as they fell, and, clinging to them, were thrown into the water. The boards prevented their sinking, however; and as soon as their fright was over, they drew themselves upon them. They had fallen in the middle of the pile, where it separated, and they climbed upon the two separate portions, where they sat laughing at each other, with little streams of water running from their clothes.

"Come here and help me," shouted Sam to the pilot, "or I'll slide off again."

The pile on which he sat was constantly falling to pieces; and before the boat could reach him, they slid again, carrying him with them. But he clung to the boards, and the pilot pulled him into the boat, dripping from head to foot.

The pile on which Lawrie sat swung clear of the tree, and floated against the rafts, where he sprang off. The boys shook themselves, let the water run from their boots, and chased each other around the rafts until they were warm.

"You won't catch cold if you keep moving," said the pilot, "nor feel any hurt from the ducking." Nor did they.

The boards had been fastened to the raft by passing a long cable around them, and more lumber was caught. The pilot had gone in another boat with the men, leaving his boat tied to the raft.

"Say we catch some timber on our own hook," said Lawrie, after they had exercised some time.

"I'll do it," said Sam. "Here, Clare, you get in the stern of the boat to catch it, and Lawrie and I will row. Yonder are some shingles; we'll bring them in."

The shingles were floating on the opposite side of the creek, and had escaped the notice of the men until they were now nearly against the rafts. The boys pulled for them; but the current was so strong, they were not reached until far below. There were ten large bunches of the shingles floating in a pile. The boat was backed up, and Clare threw the rope around them, fastening it to the ring in the stern.

"Now we'll pull up this side of the creek, where the current is not very strong," said Lawrie. "Then we can come down with it, and it will save us much hard pulling."

They managed this so well, that they soon landed their load at the rafts, and started

after another. So well did they work, that their "catchings" soon formed a large pile.

"You'll have some spending money, I guess," said Mr. Norton, as he viewed their work. "These shingles bear the mark of Mr. Arlington, the richest lumberman in these parts; and he will pay you well for saving them."

"One of the rafts is loose," shouted Clare, as they were returning from one of their trips. "There it goes down the creek."

The boys looked, and saw it just swinging into the current. None of the men was in hailing distance.

"We must save it," said Sam. "Lay to the oars, and we will catch up with it before it floats far away."

They pulled to the rafts as quickly as possible, left their load, and started after the raft, which was now some distance down the stream. They pulled with all their force, and soon brought the boat alongside. Clare sprang upon it, and grasped a rope which lay on the raft, one end of which was fastened to a grub. Then springing back into the boat, he told them to pull for some trees which grew on the bank. Around one of these he wound the rope, until all slack was taken up; and Sam helped him hold the end. This could be easily done, as it was wound about the tree, and the raft slowly came in towards the shore. It swung around until the rope was straight with the current, when with a jerk the rope parted close to the tree.

"Never mind; we'll have it yet," said Sam. "See; it has run into the bushes. We gave it such a swing, it has cleared the current."

They pulled quickly down, and sprang upon it. It had run the forward oar into the bushes, and swung broadside upon them. The broken rope was dragged in, and several hitches made to the trees near by, securing it from going farther.

"Here comes uncle Philip and the pilot," said Clare; and Mr. Norton sprang upon the raft.

"Well done, boys," said he; "I didn't know but you had started on a trip by yourselves."

The boys told him of their chase and capture of the raft.

"It wasn't fastened over tight, and the waves loosened the cables."

"You'd have lost it, sure, if it hadn't been for them," said the pilot. "They're bricks, and you ought to give them a share in the raft. It is wholesale 'catching,' you see."

"You may run this raft, and pay me half of the money you receive for it," laughed Mr.

Norton. "That will give you half to pay your men and divide among yourselves."

The next day a number of men from up the creek came down to claim their lumber, and Mr. Norton brought one of them to the boys, saying, "Mr. Arlington, here are the boys who caught your shingles; you may pay them the money."

"What! these little fellows?" said he.

"Well, boys, you have done well. We will count the bunches, and see what they are worth. Sixty quarter bunches at a dollar each are sixty dollars, and we pay one tenth for catching them, which will be six dollars." He pulled out an old wallet, and laid a two-dollar



"Is that all right?"

bill in each of the boys' hands. "Is that all right?"

"Yes, sir, thank you," said the boys.

"Well, now my shingles are here, how shall I get them back to Cincinnati?"

"These boys have a raft here which has no load. Perhaps you can strike a bargain with them."

"The very thing. Boys, I'll give you half the profits if you'll see them safe to Cincinnati."

The boys talked a little with Mr. Norton, and among themselves, and then told Mr. Arlington they would accept his offer.

"I'll see you in Cincinnati," said he, as he left them.



FALL OF THE BRIDGE. Page 84.

AMONG THE RAFTSMEN.

BY FRANK H. TAYLOR.

III — DOWN THE CREEK.

SAM LAURIE and Clare waited impatiently for the waters to subside, and visited the rafts each day to see that all was right. Meanwhile they hired two oarsmen, that being a sufficient number for running one raft down the creek. One of these was the old pilot, Brown, who, besides acting as a hand, was to pilot the raft. The other was an Irishman, a raw fellow, who had never been down the river.

The other rafts were being coupled together, two and two, one behind the other, making a ten-platform piece. They were fastened together with boards put over the grubs from one raft to another, in the same way as the platforms had been attached to each other. In the middle of this raft, known as a "creek piece," the shingles and lumber were piled in rows, leaving plenty of room on the ends and sides for the men to work and exercise.

"We have an unequal number of rafts," said Mr. Norton, one day, "and if you boys wish to go into a heavier trade, you may couple it on to yours."

"We'll do it," said they, "if you'll let us

have it on the same terms as you did the other one."

"That will be putting too much money in your own pockets, you young schemers," laughed he. "I have more shingles, however, than I can carry on my rafts handily, and if you will take enough of them to make your load amount to a hundred thousand, and carry them free of charge, you may run the raft upon the same terms as the other."

"All right," said they.

"It will only require two men for the ten-platform piece, as only two oars are needed, one at each end."

The piece was loaded with eighty thousand shingles in quarter bunches, and floated down to their piece, to which it was coupled. The shingles were then arranged near the middle of the raft, and the boys made a little house out of loose boards upon the top of the pile. Here they could lie while the raft floated along, and enjoy the ride.

The tide currents had now begun to set in towards the river, and the water was rapidly falling.

"We must get ready to start to-night," said Mr. Norton, when the water had fallen to full banks. "Mother will go with the wagon that carries the provisions to Warren, and all will be taken on board there."

"Why don't they get on here?" asked Sam.

"Running the creek is too dangerous, and we might lose all of our provisions for the trip between here and Warren."

"How long will it take us to go there?"

"If we start to-night, we shall arrive at Warren to-morrow night, provided nothing happens."

"What! do we run at night?" said the boys.

"O, yes. Rafts usually start at dark, so as to gain time, and run the dangers of the lower part of the creek by daylight."

The wagons were loaded with new cables and ropes, and drawn to the rafts. The boys provided themselves with rubber coats and blankets to protect themselves from the night air. The hands were collected upon their rafts, bustling about, trying the oars, and arranging cables, and the pilots were shouting their orders, and all were making ready for the start.

A large number of rafts from farther up the creek were continually passing while they were at work, the men exchanging banterings, bets, and jokes with each other, some betting on the speed of their rafts, and that they would make the quickest trip, and others that their rafts would sell for the most.

"Your raft will run as fast as any of them," said Joe Brown, the pilot.

"How can you tell?" asked the boys.

"Because it is heavily loaded. The heaviest raft runs the fastest, as it sinks deeper in the water, and presents more surface for the water to press against."

"Isn't it about time we were starting?" said the boys.

"Let some of the other rafts go first, and we will put our piece in behind Mr. Norton's."

The rafts now began to pull out, and came floating along by them. Mr. Norton was on the head one, and called to the boys to cast off as he went by.

"Stand by to throw off the cables!" shouted the pilot.

"Let us boys do it," shouted Laurie; and he leaped upon the bank, followed closely by Sam.

"Stand to your oar, there, Pheelim," said the pilot.

"Here I is," said Pheelim, grasping the forward oar.

"Untie the cable."

The boys loosened and threw it upon the raft, and leaped on after it.

"Pull to the right," said the pilot to Pheelim, at the same time beginning to pull on the stern oar.

The oar was carried around to the left, with

the oar-stem close to the raft, then suddenly raised to a level with the head. This is called "dipping the oar," and it is quite a trick to be able to dip it successfully the first time. The oarsman walks in the direction the raft is being pulled, pushing the oar before him. When not in use, the oar is raised from the water.

"Now, then, all together," said the pilot.

The raft moved slowly from the bank, and floated down the stream, the two oarsmen pulling steadily until it reached the middle of the current. The boys climbed upon the shingles, and stood looking up and down the river, quietly enjoying the prospect. As far as they could see, both up and down, the stream seemed to be covered with rafts, many of them being side by side, and some three abreast, where they were running by each other. It was beginning to get dark, and a few of the rafts were making preparations to "lie up" for the night.

"There'll be a scattering among these before morning," said the pilot. "Our rafts will keep ahead, because they are heavier loaded than those up the creek; but we've got to look out for them ahead of us."

The boys sat down in their "shanty," as Pheelim called it, and watched the old pilot steer the raft. They could hear the barn-yard sounds as they passed along by the houses on the bank, the shouts of the pilots up and down the stream, the sounds of the men ringing out upon the air, and echoed back from the shore, and the muskrats plunging into the water as they passed along. The rafts began to separate, and run farther apart, until the boys could see none of the others; but they could tell by their shouts in which direction they were.

"What is that?" said Clare, as they heard several sounds coming from down the creek, sounding as if somebody had struck upon loose wood.

"I don't know. There's another," said Sam, as the sound was repeated up the creek.

"I'll ask the pilot," said Laurie.

He went forward to ask him, when he saw him strike several blows upon his oar-stem, and then shouted, —

"Pull to the left!"

"What did you pound on the oar-stem for?" asked Laurie.

"To find out how to steer," said the pilot.

"Well, that's queer!" said Clare. "How did you do it by the blows?"

"I told it by the echo. Just listen, now."

He struck several blows, and in a few mo-

ments the echoes could be heard upon the shore.

"Which echo did you hear first?"

"The one from the right bank," said the boys.

"That shows we are nearer that bank than the other. Pull to the left, Pheelim!"

He then struck another blow, the echoes coming back almost at the same time.

"Now we are about in the middle."

"I've got some lanterns on board. Shall we light them?" said Clare.

"Yes; we'll pass under a bridge pretty quick, and it will help us a little to have them on the forward end."

The boys placed the lanterns at the two forward corners, and sat down beside them. They did not throw the light but a little way, but they served as a warning to rafts that might be in their course.

"These are like the head-lights to an engine," said Sam. "I wish I had a horn to blow, and we'd make believe 'twas a train of cars."

"We mustn't go to playing such little things," said Laurie. "Remember we're owners of this raft, and not little boys."

"Well, we can play we're little boys. I've seen old people play as if they were little boys," said Clare.

"Pull to the right! Keep off! We're aground!" some one shouted out of the darkness below them.

"There's some one aground below us!" shouted Laurie.

"Keep a watch for them, and let me know their position," said the pilot.

"Be careful, and don't smash us, Mr. Pilot," said Pheelim. "Remember I'm ahead, and in the principal part of danger."

"Pshaw! We won't smash. Tend to your business."

"They're on the left bank," said Laurie.

"They're on the bar," said the pilot. "I know the way now. Pull to the right, Pheelim."

The forward end of the raft swung out from the left bank, and they glided within a few feet of the raft aground.

"Help us off!" shouted the pilot, from the raft.

"All right. Throw us a cable. Here, boys, come and help."

The boys ran to the side of the raft, and caught the cable which was thrown on board. They then fastened it to the raft, so as to give considerable slack.

"Now, pull to the right hand, Pheelim,"

said the pilot. "Take care that the cable don't slip off, boys, and we'll drag them clear from the bank."

The pilot upon the other raft now ordered his men to pull. The cable straightened out, and the raft began to slip, and finally swung around into the current. The boys cast off the cable, which was drawn in by the others, who sent after them a "much obleeged."

"How do you suppose they got stuck there?" asked Laurie.

"Because their pilot did not understand the drift of the current, I presume. It runs pretty rapid towards the bar, and then turns off short; and a raft following the course of the current will run the forward end upon the bar, just as it is turning, and then swing around broadside upon it. But I guess we must be getting near the bridge." He struck upon the oar, and the echoes came back from the banks nearly together, and in a few seconds another echo was heard below.

"That's the bridge," said the pilot. "Go forward and watch for it. We want to steer for the middle arch. The current will carry us towards the right pier. Let us run within two or three rods of it, and then give orders to pull to the left. You give the orders, Laurie."

"All right," said Laurie, going forward, with a smile of satisfaction at the trust reposed in him. He could see the dark mass of the bridge below them stretching across the stream. It was impossible for him to distinguish the piers, however, until they were quite close. He then saw that they were headed directly for the right pier, and that if they went on in the same way the raft would be struck by it almost in the centre. He excitedly yelled,—

"Pull to the left! Pull to the left! We're right on it."

The pilot saw they were running too close, and shouted to Pheelim to throw it up to the left. They pulled hard, but the current carried them swiftly down, and directly towards the pier.

"Pull, pull!" shouted Laurie. "We'll hit it, any way."

The pilot ran to the forward oar to help Pheelim, sending the boys to his oar, with directions to pull to the left. This double force upon the forward oar had the effect to swing the raft around faster; but they had run too close to clear it. A brace ran down into the water from the arch, and presented an inclined plane to all rafts coming down the creek. The corner of the raft struck this with a force which almost threw the boys from their feet,

and shook the bridge until the timbers rattled. But it slid up the brace until it had swung around far enough to drop off, and then shot swiftly under the bridge, grazing the piers as it went.

"That shave was too close for comfort," said the pilot.

"That's what Pat Finnegan said when the barber almost shaved his nose off," observed Pat, who had been too scared for action.

"It made me think of my share of the profits," said Sam. "Did you ever stave on a bridge?" he asked the pilot.

"Only once," he replied. "The bridge was just below a rapid, and it was a bad place to steer. There were two of us on the raft, besides a dog, and I was pulling the forward oar. The piers of the bridge were simply wooden posts, with no braces in them, as this bridge has. Our raft was heavily loaded, and it went through the rapids like a race-horse. The fellow behind became a little excited, and pulled the wrong way; and we struck one of the piers kind o' cornerwise, and knocked it out quicker'n a flash. I saw it falling, and made a rush for the other end. The raft went through, and struck the next pier, and then in a moment the bridge fell right across the raft, cracking the boards and smashing the forward end all to pieces. We jumped into the water, and swam ashore, leaving the raft to care for itself."

"What became of the dog?" asked one of the boys.

"He was caught under the bridge and killed on nearly the same spot where I stood; we found him there when we cleared off the raft."

"How did you run the raft after it was smashed?" asked the boys.

"We had to raft it over again; you'll see plenty of such work before you reach Cincinnati."

The boys now lay down under their shanty, and covering themselves with their overcoats, slept soundly until near morning, when they were awakened by the pilot.

"We're in a pretty muss now," said he; "shake yourselves, and come out here."

The boys were a little stiff after sleeping on the hard boards, but they quickly roused up, and gave themselves a shaking, which was all their dressing.

It was nearly an hour before daylight, and pitchy dark. Their lanterns had been lost when they struck the bridge, and they had no materials for making a light.

"What makes the raft act so queer?" said Sam.

"Why, I believe it's whirling around," said Clare.

"It actually is," said Laurie.

"What's the matter, Brown?" No one says Mr. on the river. "We're in the Duck Pond," said he.

"The Duck Pond?" queried Laurie.

"What's that?"

"It's a big eddy; just here, where the creek is wider than anywhere else. I'd ought to have known better than to get into it; but there has been a boom across it to keep rafts out for a long time, but it was carried away a short time ago by a freshet, and I had forgotten it. I never thought a thing 'bout it till we were in too far to get out."



"That's what Pat Finnegan said when the barber almost shaved his nose off."

"How large is it?" asked the boys.

"We go around a circle of about ten rods. You can see the tops of the hills where they come against the sky, and tell when we make a circle."

The boys sat down and watched the peaks as they came against the horizon.

"There's one we saw before," said Clare. "Where is that peak, Brown?"

"It is one of the Alleghenies, and is almost in the direction we wish to go."

"Well, this is getting monotonous," said Sam. "Can't you pull out?"

"No; the current is too strong. We might

pull all day, and not get beyond the current."

"How will we get out, then?" asked he.

"Throw a rope to some of the passing rafts, and let them pull us out. Some rafts stay in here all day, before another comes along to help them out. A couple of drunken men were caught in here once with a skiff. They rowed around here the whole night, supposing all the while they were going farther down the creek. A house stood on the bank then, and there was a dance in it that night; and the men said, when they were found the next morning, that it was the greatest place for dancing on this creek they ever saw, for they had rowed all night, and there had been dancing in every house they passed."



"We're in a pretty muss now; shake yourselves, and come out here."

"How far from the eddy is the main stream?" asked Laurie.

"About a rope's throw, from where the rafts run."

"How long before there'll be a raft by?"

"It can't be a great while, for none have passed since we have been in here, and we passed some just before we went under the bridge. You boys can watch while I take a nap."

The pilot lay down on the raft, under some boards, with nothing but a coat around him, and was soon mingling his snores with those of Pheelim, who had been asleep some time.

"Now, boys," said Laurie, "there's no use in waking the pilot up when a raft comes along. We have been watching things pretty close, and I believe we can manage the raft."

"I don't believe we can pull the oars," said Sam.

"Yes, we can; don't you know Brown sent us to the back oar to pull when we went under the bridge?"

"But suppose we get the raft stuck on some place or stone?" said Clare.

"Well, it's our own lumber, and it will be our own loss."

"Yes; but I don't like the idea of losing our lumber. Just think of the money we'll have to take home, if we go through all right," said Clare.

"Well, we can try it," said Sam; "and if we see anything going wrong, we'll wake up Brown."

It was now nearly daylight, and the boys could distinguish objects on the shore. They saw that the eddy was a large pond, looking as if cut out of the side of the creek by the force of the water, and forming a large circle, which at times carried the raft so near the bank that they could almost leap to land. A farmhouse stood not far from the bank, and they could hear the farm boys in the cow-yard, and the occupants stirring about the house.

"I wish I could get some milk to drink," said Clare, "for I begin to feel hungry."

"Why not jump off, and buy something at that farm-house?" said Laurie.

"I believe I could leap ashore if you boys would pull the raft around a little, where it comes so near that point," said Clare.

"Try it," said Laurie. "You can get us some cakes and cheese, and we can make a good breakfast; but you had better hurry before a raft comes along."

Sam and Laurie pulled the forward end of the raft as near the shore as possible, and Clare, taking a little run, sprang upon the land. "All right!" said he. "I'll be back in a few moments."

He found the farmer's wife busily engaged in getting breakfast. Everything looked neat and home-like about the house, and the woman showed signs of education and refinement. He told her his errand, and she generously loaded him with cakes, and cut a huge piece of cheese from a large one which lay on a table. She refused the pay which Clare offered her, and gave him a glass of the new milk which the farm boys brought in.

He hastened to the raft, and showed the boys his load.

"She refused all pay," said Clare, "and said we were welcome."

"Well, that was a generous act," said Sam, "and I think I am able to appreciate it," taking a large bite of the cakes.

The boys enjoyed their lunch, and had just finished it as a raft came in sight around a bend, followed by several others. They fixed the cable to be thrown.

"Give us a lift?" said Laurie, as the first raft came opposite.

"Yes; throw your cable."

Laurie threw the cable as far as he could, but it fell short.

"You'll have to wait for the next raft," shouted the raftsmen.

Laurie drew the cable in, and again made ready for a throw. The next raft came opposite just as he was on the outmost circle, and there was but a short distance intervening, but by an unlucky kink in the rope, it fell short again.

Laurie began to think he had made a mistake in not calling the pilot; but he determined to try it once more.

"Here's a smaller rope," said Sam, "perhaps you can do something with it."

"I could if I had a block," said Laurie.

"How will this do?" said Clare, picking up a piece of a grub, that had been left on the raft.

"That's what I want."

He tied the end of the small rope to the block, and the other end to the cable. Another raft had now come opposite them, and Laurie picked up the small rope, and swung the block around in a circle, as boys do when they throw stones with a sling. Then, letting go with a hard swing, he sent the block upon the other raft. By means of the small rope the cable was drawn to the raft, and fastened, and then the boys began to pull, Laurie taking the forward oar, and the others the rear one.

"Do you boys run that raft!" asked the men.

"Yes; we own it," said Laurie.

"We've heard of you. You pulled us off from the bar last night, and so we return the compliment. Where's your pilot?"

"He's asleep, and we're going to run the raft until he wakes up."

"You better be careful, or you'll run it into the ground."

"O, we can follow you; and the pilot said it was good running below here."

The raft had now reached the main current, and the cable was cast off and drawn in.

"Now, boys," said Laurie, "I'll be pilot,

and you must obey me, every word, or we may get aground."

The boys soon found that their raft ran faster than the other, and that they were gaining on them.

"What will you do if this raft runs into the other?" asked Clare.

"I don't know," said Laurie, looking puzzled, as he saw the distance between the two rafts swiftly diminishing.

Just below them was a sharp bend in the creek, and as the forward raft turned this, the boys, running their raft too near the shore, struck against the corner of it with a force which nearly started the boards, and awoke the two sleepers.



Clare and the Farmer's Wife.

"Where are we?" said the pilot, as he saw the raft was not in the Duck Pond, where he went to sleep.

"Going on our own hook," said Laurie, a little crest-fallen.

"Pull off there!" shouted the pilot of the forward raft. "You are pushing us against the bank."

The boys' raft, striking the corner of the other, was pushing it across the creek in spite of the efforts of the men, and there was danger of staving on the shore.

"Take the forward oar, Pheelim," said the pilot, seeing the difficulty at a glance. "Throw

it up to the right;" at the same time he pulled the stern oar to the left.

The other raft had now been pushed so near the opposite bank, that there was room for the boys' raft to run by. The pilot took advantage of this opportunity, and steering to the right through this opening, soon left the other raft behind.

"That was a bad fix," said the pilot. "How did you come down here, and in it?"

The boys told him their adventures, and how they got out of the Duck Pond.

"Well, that was a pretty ingenious way, and you might have got out of this all right; but it was lucky I awoke, for there is a dam just below here to run, and you would never have got through it without staving."



"Faith, that was the greatest kick I ever had."

"What kind of a thing is it?" asked Clare.

"Why, it is a dam built across the creek to run a saw-mill. There are not so many here now, since they use steam, but they have them by all the villages. Here it is, and plenty on it, to see us go through."

The dam looked like a bridge without any railing from where the boys were, except that it was boarded up at each end for five or six feet above the water, and nearly across the stream, the only opening being in the middle, through which the rafts ran. Through this opening the water poured with a loud noise. There was no fall, however, the bottom of the

dam being made by laying plank so as to form a long chute, and large timbers were placed for the sides, the whole looking not unlike the chutes, made by boys for their water-wheels. The force of the water, pouring through the chute forms a bar below the dam, on which the rafts are often stove or stuck.

The dam was crowded with the village boys to see them run it, and there were a number of persons on the bank. The boys became greatly excited as they neared the dam, and were still more so when they saw the water foaming through the chute. The pilot steered directly for the opening, the raft running swifter and swifter as it approached it.

"Now, take care of your oar, Pheelim," said the pilot, and "don't let it be caught in the swirls, when the raft plunges below."

The swirls are eddies formed by the raft, as it plunges into the water at the bottom of a chute, and which will sometimes break oars when caught in them.

The raft slightly dipped as it went through the opening, and then, as it shot down the chute and dipped its forward end deep in the water below, it seemed to be covered with foam. The water flew high above their heads, and fell in thick spray upon the raft, almost wetting them through. The boys upon the dam yelled and hurrahed, and the people shook their handkerchiefs and cheered.

But Pheelim, forgetting the advice of the pilot, or confused by the flying water, let his oar drop into the swirls; and so quickly was it flung around, that he was thrown into the water. The boys ran to the edge of the raft, and, as he rose, grasped his hands and helped him upon the raft.

"Faith, that was the greatest kick I ever had," said he, blowing the water from his mouth and nose. "That oar laped like a hoss, and the next moment kicked, and I warn't where I was at all, but just somewhere else."

The pilot and the boys laughed heartily at the ludicrous figure he made, in spite of the danger he had been in.

They had passed the bar all right, and in a little while they reached Pine grove, where they found Mr. Norton with the rafts. Here they tied up, and went on shore to find a pilot to take them through the rapids.



"IT IS TOO LATE NOW," CRIED THE PILOT. Page 92.

AMONG THE RAFTSMEN.

BY FRANK H. TAYLOR.

IV.—RUNNING THE RAPIDS.

THE bank where the rafts were tied was covered with raftsmen when the boys landed. The pilots and owners of the rafts stood by themselves, talking of the market and lumber, while the younger raftsmen formed a group by themselves, where they were testing the superiority of each other's muscle in boxing and wrestling. Most of these latter were young men of about eighteen or twenty, living in neighboring towns on the head-waters of the creek. They had often met in these sports, at elections and town meetings, before, and now wished to gain more honors, or retrieve lost ones, over their old rivals.

The boys strolled up to the group of young men to see the sport. A ring was formed by the spectators, and in this the actors were struggling. The "best men" from two rival villages were matched against each other in a wrestle, which is the favorite sport of boys or men on the river. The excitement is intense as the wrestle proceeds, and now one and then the other seems to have the advantage; and when at last one gains the victory, he is cheered lustily by both friend and rival. But he must

hold his position as victor of the ring by wrestles with the best man from each village represented among the rafts. The man who is victor in the last contest is termed "bully," his prowess is reported to the other rafts, and at each place of landing he will be called on in a wrestle.

The boys watched the sport until the pilot called to them, and said they must have a pilot to run the rapids.

"Can't you run it?" asked Laurie.

"No; I have not been through them for some time; and it is best not to risk it," said the pilot.

"Where can we find a pilot?" asked Laurie.

"Come with me, and I will show you," said the pilot.

They walked down to the creek, and the pilot led them towards a group of men standing there.

"Get one of those," said he, "and we will start pretty soon, as we have rested long enough."

"I'll attend to it," said Laurie, who had done most of the business since they started.

As Laurie neared them he was struck by their strange appearance. They were dressed in poorer clothes than raftsmen usually wear: they wore moccasins, and there was a gringing appearance about them which Laurie did

not like. But what seemed to him the most singular was their color. It was not black enough for negroes, and, besides, their hair was long and straight.

"Indians," thought Laurie, as he came nearer.

And in spite of his manliness he was a little afraid of them as he remembered the stories he had read of "the cruel red man."

He stepped up to one whom he thought the best looking, and asked him if he was a pilot.

"Ugh, me pilot," said the Indian, in broken English.

"What's your price?"

"You give me, how much?"

"One dollar."



Wrestling among the Raftsmen.

"No enough. Me take two."

"No, you won't. I can't give you but one," said Laurie, who knew the price usually paid.

"No; me take one and half," said the Indian.

"I'll find some one else, I guess," said Laurie, turning away.

"Me take it," said the Indian, following him.

"Come on, then," said Laurie, leading the way to the raft, where the pilot and boys were.

"Did you ever run the rapids?" asked the pilot of the Indian.

"Yes; I run him much," responded the Indian.

"What's your name?"

"John Halfmoon."

"He's all right, boys; I've heard of him," said the pilot.

"Where do these Indians live?" asked Laurie.

"At their reservation on the Alleghany. They have some land set off for them by the government, where they live under their own laws and chiefs. Most of them have good houses, and are quite wealthy. They are the best pilots we have on the river, knowing every turn and rock; and they have a native-born coolness in danger."

Pheelim soon came down to the raft; they then cast off, and began pulling into the stream. A number of other rafts were also pulling out at the same time, and the stream seemed to be covered with lumber. Some of the rafts coming from up the stream, having pilots on board who could run the rapids, did not tie up, but attempted to run by those which were tying up or pulling out. One of these, which contained four pieces, and was heavily loaded, struck against a light one, which was at that moment pulling out, crushing in the boards of the lighter one as if they were sticks, and crowding it down upon the rafts below it. The next raft was the one belonging to the boys, which was also pulling out, and below this was one tied to the shore. The two rafts were but a few rods above them, and bearing down swiftly.

"There'll be a stave here, if we're not careful," said the pilot, as he saw the rafts bear down upon them; "and unless we get clear of this one below, it will be all day with us."

"Pull, pull!" said the Indian; "maybe me get clear."

"We can't do it," said the pilot, as he saw the rafts were bearing down too swiftly for their escape.

He turned to the raft below him. There was but ten feet of water between the two rafts, and those above them were already within that distance. He saw that if their raft was caught between them, it would be crushed like a cockle shell.

"We're in for it, boys," said he. "Now, take care of yourselves. The moment the rafts touch, spring upon the one tied to the shore, and run for the bank."

"Me save it," said the Indian, picking up an axe. "You pull, pull like everything, and me all right."

As he said this, he sprang over the intervening space, upon the raft which was tied to the shore, and ran across it to where the cable was fastened. This he severed with one quick

blow of the hatchet, and darted back to the raft. The pilot saw the Indian's plan, and telling Pheelim to pull his best, exerted all his strength upon the oar. Being thus loosened from the bank, the lower raft swung down with the current, and just in time, for the rafts above were already within a few feet, and there was still danger of a collision. This was prevented, however, by the Indian, who grasped a long pole as he sprang upon the raft, and placing it against those above, began pushing. This example was followed by the boys, and by their united efforts the raft was soon clear.

But below them the creek was still filled for nearly a mile with rafts, and there was constant danger of a collision as they passed along. The Indian pilot, however, was perfectly cool, and had not seemed excited even when danger appeared most imminent. He gave his orders in a single word, or with a gesture; and the boys, who had become somewhat excited during the above scene, were quite cool as they watched him. Several times they bumped against other rafts, and once struck so hard as to start the boards, and rouse the boys' fears.

"I'm glad that's through with," said Sam, as they passed the last raft. "A fellow didn't know whether he was rich or not while running through there."

"But here comes something worse yet," said the pilot.

"What's that?"

"The rapids. Don't you see how much swifter the water runs; and you can see down below there that it is full of bars and rocks."

"How far is it like that?"

"All the way to Warren, about eight miles, and we can run it in an hour."

"Why, that's almost a mile in seven minutes," said Laurie.

"Yes; and as we are the first over this season, we must be more than usually careful."

The water was clear of rafts below them, as they were the first to pull out, and just behind them came Mr. Norton's rafts. The water was quite high, as it must be to clear the bars, rocks, and islands, of which the river seemed to be full. Every few rods the raft would be pulled to the right or left, and they would glide by some bar of sand, or a rock which almost reached to the surface. The men were kept pulling all of the time, and the boys now and then lent a helping hand at one of the oars. Besides these rocks and bars, the surface of the water was covered with lumber, creek rubbish, and floating trees. In places

islands were covered with water, and the trees growing upon them looked as if standing in the middle of the river.

"These are hard places to run," said the pilot, as they passed one of the islands, where the boys could see the bank within a few feet of the raft. "The water very often moves parts of the land, with the trees, into the channel where we usually run, and we must find new channels."

"There's one ahead that looks as if it was across the creek," said Laurie, pointing to a tree standing almost in their course.

"It does look like it," said the pilot. "I'll ask the Indian. — Isn't that a change in the current, John?"



"No enough. Me take two."

"Looks so," said the Indian. "We run it down."

"What's he going to do?" asked Sam.

"He thinks he can run against it and knock it down," said the pilot. "The roots are probably loosened by the water, and at the rate we are going we can run it under. There are bars on each side, so we can't turn out."

The tree was a small one, not more than a foot through, but was thickly branched. It was submerged for three or four feet, and leaned slightly down the stream. The Indian stood on the forward end, and coolly gave his orders, running straight to the tree. The raft struck it with great force, toppling it over, and

bearing it down under the waters. The boys could hear the branches scraping and scratching on the bottom of the raft, as it went under, and then it rolled up behind, completely loosened from the earth.

Mr. Norton was piloting the raft behind them, and as he saw the tree rise up within a few feet of him, he attempted to pass by pulling to one side. The tree caught upon a sand-bar, and was rolled up by the force of the waters until the branches and greater part of the trunk were out of water, while the roots were still submerged. In the attempt to pull the raft aside, it swung around, and caught broadside upon the tree near its middle,



"Me save it."

and the next moment it broke apart where the pieces were coupled together, throwing the lumber and shingles into the creek. One of the pieces thus broken apart floated down in the direct channel, while the other stuck on the bar. Mr. Norton was upon the floating piece, and began to catch the lumber which had been thrown into the water, while those upon the bar commenced unrafting, throwing the boards into the creek, to be floated down until they could be drawn ashore and rafted again.

"What will father do with his raft?" asked Sam.

"Run it to Warren, and wait until the other piece is rafted. He can run it down with

one oar, and a board for a rudder," said the pilot.

They were now nearly through the rapids, and the boys were congratulating themselves upon the security of their raft. They were sitting upon the shingles talking of their plans, when the raft struck a bar with a shock that sent them, shingles and all, rolling upon the raft.

"What's up?" said Laurie, springing to his feet.

"Stuck on a bar, I guess," said the pilot.

"The raft has stopped entirely," said Sam, "and those other rafts will be running into us."

"Maybe we can get it off before they get here," said the pilot. "If it isn't on too hard we can pry it off."

"This new one, never here before; but we get off," said the Indian, as he commenced pulling off his moccasins.

"Off with your boots, Pheelim. — And you, boys, can help us," said the pilot.

The boys undressed their feet, rolled up their trousers, and picked up some of the handspikes that had been put on board. The water was not over two feet deep here; and the boys were soon beside the men in the water.

"Suppose you couldn't pry the raft off," said Sam; "what would you do then?"

"Unraft it, or, perhaps, only take the shingles off, and make it lighter."

"But some of the rafts would run into us by that time," said Clare.

"And maybe that would shove us off," said the pilot. "But if the raft goes off in a hurry, you boys must spring for it, or you may be left on the bar."

The raft had run on to the bar some distance, and they found it hard to move it; besides, the sand was too soft to make a good fulcrum.

"This will never do," said the pilot, after they had worked some time. "We must try some other means."

"Why can't we shovel the sand away?" said Laurie. "We might use pieces of boards as shovels."

"Just the thing," said the pilot.

They provided themselves with pieces of boards, and using them as shovels, they soon cleared away a large space beneath the raft.

"Now use the boards for levers," said the pilot. "Now, all ready. Yo, heave! and off she goes!"

The last lift started it, and it floated off, all springing upon the raft but Sam. He had been too slow, and before he could gather himself, the raft was too far for a leap.

"That's an unceremonious leave-taking," said Sam, as the raft floated away. "Halloo! ain't you going to take me on board?"

"It's too late now," shouted the pilot. "Your father's raft will take you off in two minutes."

"But I shall drown!" shouted Sam.

"Can't we get him?" asked Clare and Laurie, who began to be afraid he might be drowned; although they had laughed when they first saw him left on the bar.

"The water isn't deep enough to drown him," said the pilot. "And you see his father's raft is already in sight, and will reach him before we can. — Stand where you are, and you're all right," he shouted to Sam.

"Well, I've heard of shipwrecked sailors on islands before now, but I don't believe the island was under water. But the water is growing cold, and there is no earthly place to repose here," said Sam, as he retreated to the highest point of the bar, which was only two or three inches under water.

Mr. Norton's single piece was now close to the bar, and Sam waded out as far as he could to reach it.

"What does this mean? How came you here?" asked Mr. Norton, as he pulled Sam upon the raft.

"Circumstances over which I had no control," said Sam, laughing at the thought of his adventure.

He then told Mr. Norton of their accident, and how he happened to be left.

"Well, your clothes are not wet; so I guess you won't catch cold; but you had better wrap yourself up," said his father.

Sam wrapped himself in his father's great-coat, and sitting down upon the raft, soon felt as well as ever.

The boys' raft reached Warren without any more accidents, and Sam found them on the raft waiting for him. Mr. Norton immediately began coupling his rafts together, and making everything ready to start on the morrow. The rafts were built three pieces wide and twenty-one long, with three bars at each end. Near the centre of these rafts their house, or shanty, was built, consisting of a single room, and with wooden bunks on the sides, filled with straw, for sleeping-places. The shanties upon those rafts where there were ladies were divided into two apartments.

The boys made arrangements to couple their raft with some of Mr. Norton's; their own pilot was to run it, and Mr. Norton was to furnish the men for the whole raft. The boys were to run it as their own until there was a

chance for a sale. Their raft was soon coupled, a shanty built, and everything ready for a start.

A large number of rafts had now come in, and they reported nearly a dozen rafts stove on the rapids. This statement was soon verified by the lumber which came floating down the creek.



"What's up?"

The men were busy all that day catching their timber and rafting their broken rafts. The boys worked with the men, assisting any who needed help, and doing good service in catching lumber. They became well known among the raftsmen as the boy lumberers. They took their honors, however, quite coolly, although they talked it over at night before they went to sleep, and told each other what they had heard the men say of them through the day.





LAURIE AND MISS COATES IN THE WATER. Page 96.

AMONG THE RAFTSMEN.

BY FRANK H. TAYLOR.

V.—ON THE RIVER.

THE boys were awakened the next morning by the pilot knocking at their door.

"Get up, boys. We're all ready to start now," said he. "Be lively about it."

They hastily dressed, and went down stairs, where they found the pilot awaiting them.

"What's the hurry this morning?" asked Laurie.

"We want to pull out before any of the other rafts start," said the pilot; "then we shall have the way clear before us."

They found a boat waiting for them by the bank, and a boatman, which the pilot had hired. The bank of the Alleghany was lined for miles with rafts, that had been coming in all night, both from the creek and river. Upon each of these a shanty had been built, and in most of them a fire was burning, the whole scene looking like a village on the water.

"Why, how many rafts are there here?" asked Clare, after they had rowed some time.

"I guess they'd cover nigh ten or twelve acres," said the pilot, and that's the reason we want to start early, to get clear of the jam."

"What if some one else should try to be as sharp as you?" said Laurie.

"I wouldn't say anything agin it; but I'd do my best to beat 'em," said the pilot.

"Yon's one looks as if 'twere goin' out," said the boatman.

"Jerusalem! it is!" said the pilot. "Hustle up. Here, let me help."

The pilot took one of the oars, and bending to their task, the two men sent the boat flying through the water.

"Here's another sharp one," said the pilot, as they passed a raft where the men were untying, and getting ready to start. "There's more sharp ones than usual this spring; but we'll beat them all yet."

"But where's our raft?" asked Laurie, as they passed the place where it had been left.

"We dropped it down below here last night after dark," said the pilot, "so as to keep it clear of the others."

They found the hands on their raft all ready to start, and only awaiting their arrival to shove off.

"Now be lively, boys," said the pilot. "There are several rafts up above us that are pulling out, and each thinks he is first, and that the others are fast asleep."

"We're all ready," said one of the hands.

The cables were cast off, and the raft once more began to move. This one was the lowest, and the boatmen had no trouble in steering clear of the shore, and were soon in the middle of the current.

"There come the others," said Sam, as they swung out, and could see the fires on the rafts up the river.

"Half of them will be pulling out before daylight," said the pilot, "so as to be first, and have it to brag of."

"How can you tell the way to steer here?" asked Laurie.

"I tell by the echoes partly; but we usually run by watching the mountain-tops. We can guess our position by them."

The boys soon went into the shanty, and lying down upon the bundles of straw, they slept until daylight. Then one of the hands came in, and began to prepare breakfast. They had none of the culinary articles which are necessary to a good kitchen. There were a frying-pan, a kettle, a coffee-pot, and a tea-pot, for cooking, with tin plates and cups.

"When I first went down the river, we didn't have any dishes to eat from," said the cook, who was known by the nickname of Brad among the raftsmen, "and only one kettle to do our cooking. We would take a shingle for a plate, and our jackknives for forks or table-knives. But we had splendid times."

"I should think this would be dry living by the time we reach Cincinnati," said Laurie.

"You'll be hankering after something else. I guess, before we're through with it," said Brad. "But we'll make it a little better by a lark."

"A lark — what's that?" asked Sam. "Do you have larks on the river?"

"A lark is when we take a little walk on shore, to rest ourselves, and pick up any stray chickens or turkeys that we find wandering around, for fear they may lose their way, and wander off and die."

"I should think that was pretty near stealing," said Clare.

"We don't call it so. It is only our mark of respect for the inhabitants. Why, you see, they cheat us if we buy anything of them, and we take their fowls to pay for it."

"But don't they ever make a fuss?" asked Laurie.

"What's the use? They know that they have cheated us, and they expect we will try to be even with them. One fellow brought some eggs on board to sell one day, as we were tied up near his place. We bought them; there was nigh about twenty dozen; but when we

came to cook them, there wasn't a dozen good eggs in the whole lot. We pulled out that night, and took about half of his hen-roost with us. — Breakfast's ready. Get your cups and plates, and take hold and help yourselves."

The men now came in to their breakfast, with the exception of two or three who steered the raft. Each took his plate of victuals and cup of coffee or tea, and ate his breakfast wherever he found it most convenient. The boys enjoyed this novel way of eating, and did not grumble about their victuals, although they were not cooked in the best style, and the coffee was decidedly unsettled.



The hired Boatman.

For miles below Warren the river ran between high mountains, covered with woods and bushes. There was not much of interest in these, save once when the boys saw two deer running around a spur of a hill. Finally, oil derricks began to appear upon the bank of the river, where old oil wells had been drilled, which were now dry. Then Tidioute, with its many derricks and oil tanks, burst upon their view.

"It's a dirty-looking hole," said Clare, as they passed the village.

"It looks as if it had been drowned in oil some day, and then repeopled," said Sam.

"That is the general look of the oil regions," said the pilot.

At dark they made preparations for tying up

One end of the cable was made fast to the raft, and the other put into a boat and rowed ashore. A man then took the cable, and ran along the shore until he came to a convenient tree, around which he gave the cable two or three turns, and then held to the end of it. When the cable was straightened so that it began to slip, he unwound it, and ran to another tree. This was repeated several times, until the speed of the raft was slackened, and it was drawn ashore, where it was made fast by cables. Several rafts came down and tied by the side of them during the night. The boys paid them a visit, and found, to their surprise, that Mr. and Mrs. Norton were upon one of them. The cabin on this raft was furnished far better than their own, and was nearly as comfortable as their kitchen at home.



A Lark.

The next morning they "tied loose," as the raftsmen say, and were on their way by daylight.

"We had better slick up a little to-day," said the pilot, "and put on our Sunday neatness."

"Why so? 'Tisn't Sunday," said Clare.

"I expect we shall have visitors to-day," said the pilot.

"Visitors!" said the boys; "whom do you expect?"

"Somebody usually gets on at Oil City for a pleasure ride down the Alleghany. Some-

times a whole family, with several boys and girls, will ride with us ten or twelve miles, and then come back on the cars."

Oil City was now in sight, and as they neared the large bridge which spans the river, they saw a boat pull out from the shore loaded with ladies and gentlemen.

"There are our visitors, I guess," said the pilot.

"Halloo!" shouted somebody from the boat; "will you take some passengers?"

"Yes," shouted the pilot; "come aboard."

The boys saw there were several young ladies of about their own age in the boat, and hastened into the cabin to make themselves more presentable.

"These are the owners of the raft," said the pilot, as the boys came towards the place where he was talking with one of the visitors.

The gentleman, whose name was Coates, was somewhat confused as the pilot introduced them, and looked as if he expected some kind of a joke.

"I am very happy to meet you, young gentlemen," said he; "but isn't that a little joke of the pilot's about your owning the raft?"

"No, sir," said Laurie, laughing; "we are owners of a part of the raft, and the remainder is under our command."

"You are quite young for lumbermen," said the gentleman; "but you seem to have been lucky so far. Allow me to introduce you to your other visitors."

These were a lady, the wife of Mr. Coates, his son of sixteen, and his two daughters of about fourteen. The boys blushed very deeply as they were introduced to the ladies as owners of the raft, and especially Laurie, who had been struck with the beauty of one of the young ladies. Laurie appointed himself a guide to show the visitors about the raft, and in his explanations soon found himself separated from the others, and strolling about with the young lady who had so much attracted him.

They were now approaching the Franklin Bridge. Under this the water ran with great swiftmess, and it was known as a bad place among the pilots. The pilot had not been as watchful as usual, his attention being attracted by the visitors, and the raft was in danger of striking against the pier as they neared it. By quick pulling the forward end was swung clear of the pier, but they were not so successful with the stern. It swung around and struck the side against the pier. Laurie and Miss Coates were standing upon the edge of the raft as it struck, too interested to notice their danger. So quick was the shock that they

lost their balance, and, in spite of their efforts, were thrown into the water. Laurie grasped her as they struck the water, and managed to keep both her and himself above the surface. Their cry for help as they sank had startled the men on the raft, and already two ropes had been thrown to him. One of these he grasped, and was speedily drawn on board with his fainting burden.

"She must be carried ashore immediately," said Mr. Coates, as he grasped his daughter. "Here! a boat — quick!"

The boat of the raft was brought to the side, and two of the raftsmen entered to row it.

"Excuse me, Laurie," said Mr. Coates, as he was stepping into the boat, — "excuse me. I had forgotten, in the anxiety of the moment, even to thank you."

"And I," said Mrs. Coates, extending her hand. "Accept my heartfelt thanks for your noble deed."

"Why, I couldn't help it," said Laurie, blushing as he took the proffered hand, and not knowing what else to say. "I was in, and of course it was natural to save her."

"And God bless you for it. I cannot express my gratitude now, but you shall hear from me again. Good by, good by," said Mr. Coates, as the boat shoved off.

"Highly romantic, very well performed, and bliss and happiness must eventually follow," said Sam, as Laurie sat in the cabin drying his clothes.

"There, please don't say any more," said Laurie.

"But how does it feel to be in such a place? Did you think you was a hero, and saving your future wife, as they do in story books?" persisted Sam.

"O, shut up," said Laurie. "Here comes a fellow to sell us something. I'll go and make a purchase."

"Look out, or the young rascal will cheat you," said the pilot, as Clare and Sam were bargaining with him.

"Here's a chicken; he can't cheat us on that," said Sam; "and these eggs, too."

"You'd better try the eggs," said one of the hands.

"You may try 'em," said the seller.

"Yes, they're good," said Sam. "We'll take a couple dozen."

The boys bought their provisions, and the boatman was pulling off, when one of the men asked him if he had any whiskey.

"Yes," said he, producing a bottle.

The raftsmen drank nearly half the contents, and then declared it was not fit to be

paid for, and told the boy never to come on board again.

"But I want my pay," said the boy.

"Get out," said the raftsmen; and he started away.

When several boat's lengths from the raft, he shouted, —

"I guess you don't make much by that bargain, if you did get the whiskey. Better try your chicken and eggs before you cook 'em."

"That's some joke," said one of the men; "let's see your chicken."

"That ain't a chicken," said the pilot, as they produced their purchase. "You're beat."

"What is it?" asked the boys.



Meals on the European Plan.

"It looks more like an owl than anything else," said the pilot. "and that's what 'es. They've picked it clean as a chicken, and I don't wonder you were fooled."

The boys now tried their eggs, and found only one good in the two dozen.

"Well, that's a sell, sure," said they, a little discomfited at their trade.

"Well, we're about even," said Brad. "He lost his whiskey, and you your money."

They tied up that night in Miller's Eddy, and were soon surrounded with rafts. These were so thick that the boys could walk on them for some distance up and down the river. It looked like a little city of Irish shanties suddenly sprung up on the water, each with its

little garden patch around it. A number of the rafts had violins on board, and the sound of these, joined with the songs of the men and the gay laughter of the different parties, rang over the water. The boys strolled among the rafts for some time, enjoying the romantic scenes, and the wild songs and dances, which were joined in by the whole crew. The Indians, of whom a large number were among the rafts, added to the sport by their dances, many of which have descended from their old war dances, and are now only seen in this peaceful form.

The boys had hardly fallen asleep that night when they were awakened by the shouts of men and the snapping of cables. They rushed out, and saw that the rafts near them were in motion, and drifting down the river. The men were yelling, pilots shouting orders, and the whole scene was the wildest confusion. Their

pushing the rafts apart, and throwing off cables fastened to their own. Several of the rafts went ashore, or were stove upon the rocks with which the eddy abounded. By skilful management the boys' raft was got clear of the others, and they started out into the darkness down the river.

"Aren't you going to land?" asked Sam.

"No, I dare not try it; it would be too dangerous," said the pilot.

"Where did that raft come from that broke us loose?" asked Laurie.

"From up the Alleghany. It is built of solid timbers, and is heavier than ours. I've seen 'em do the same thing before — run into a lot of rafts to stop themselves, and break 'em loose. It's mighty dangerous running in the night, and we may expect to stave any minute; but may be we'll be lucky enough to get through."

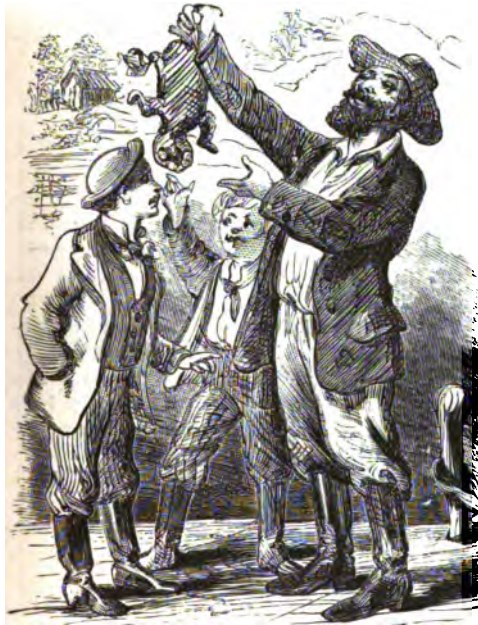
The men stood at their oars all night, only now and then catching a nap in the intervals of pulling. Several times they were on the point of staying on a rock which could not be seen in the darkness, and they did not escape without several hard bumps.

When the boys awoke in the morning, they saw the river had widened, and that the bank was lined with cultivated fields and white cottages. Far down the river they saw a heavy cloud of smoke rising, and spreading out like a pall. The boys asked the pilot what it was.

"It's the smoke in Pittsburg. That's the blackest city in the United States. They have so many furnaces and iron works that they keep a perfect cloud of smoke over the city, and fill the air with coal dust."

Soon the piers of the bridges were in sight, seeming a perfect network, through which the boys thought it impossible to run. But the pilot understood the current, and they were soon through the bridges. The raft ran six or seven miles below the city before it found a place to tie up, so thick were the rafts.

The raftsmen went to sleep, and the boys went up to Pittsburg, by a steamboat, where Laurie found a letter for him, which he very carefully kept from the boys. But they said it was postmarked Franklin, and they believed it was in a feminine handwriting.



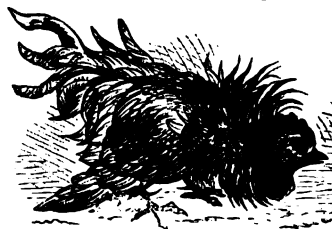
"You're beat."

own raft was between several others, and was borne by them out into the river.

"What does all this mean?" asked the boys all at once.

"We've been broken loose by a timber raft," said the pilot, who was putting forth all his efforts to extricate the raft.

The boys could see a large raft, built of heavy timbers, among the others, which was not there before, and this seemed to be crowding its way through to the shore, breaking loose the other rafts, and crowding them aside. The men were





THE PURSUIT. Page 100.

AMONG THE RAFTSMEN.

BY FRANK H. TAYLOR.

VI.—FORAGING—CONCLUSION.

AT Pittsburg the rafts were again coupled, two of the Allegheny pieces making one on the Ohio. The boys, however, did not couple their raft. They had concluded to run it single, as it was as safe, and there were none of Mr. Norton's to which they could couple it. New hands were hired to take the place of those who were to return for another trip, fresh provisions were put on board, and the next morning the boys pulled out.

On the broad Ohio the men found it easy work to run the raft, and reclined lazily at the oars. The boys either lay upon the boards in the warm sunshine, or strolled about the raft, watching the passing steamboats.

"What would happen if we should run into one of those steamboats?" said Laurie.

"We should have to help the passengers out of the water, I'm thinking," said the pilot.

"I should think they would be more apt to help us out," said Sam.

"O, no! They are very careful to keep out of our way. If a raft, or flat-boat, as they

call it, should strike one of those steamers, it would crush in its side as if 'twas a scow. You'll find that everything on the river keeps out of the way of a raft."

The boys found that river life grew monotonous upon the Ohio, as they floated idly along each day. There was none of the dangers and sudden mishaps which they had met on the Allegheny, but pleasant weather and only a little work. The men grew irritable, and wished for something to turn up, no matter what it was; even a smash-up would be preferable to this listlessness; anything that would cause a disturbance and make a little excitement.

"This is fearful dull," said the man who was nicknamed Brad, as they tied up one night. They rarely tied up at night; but as it was more dangerous than usual below there that night, they had concluded not to run. "I wish something might happen," continued Brad; "even a fight would be a luxury."

"Well, s'pose'n we stir up something," said his mate at the oar.

"What do you say to a raid to-night?" said Brad.

"Good! be a jolly night for it. Darker'n pitch, and the wind blowing loud enough to drown all noises."

"What's a raid?" asked Sam, who, with the other boys, was sitting by them.

"It's what I explained to you once as a lark," said Brad; "a little walk on shore after eatables, you know. We call it by any name that happens to come easy. They call us raiders, and so we say, when going out, that it is a raid."

"S'pose we go to-night," said the other raftsmen.

"All right. Don't let none of the other men know it, and we'll dig out about midnight. How would you boys like to go?" said Brad, turning to them.

"I'll go," said Sam, who was ready for anything.

"I'll see what the pilot says," said Laurie. "If he thinks it's all right, I'll go."

"Tell him not to let it out to the other men," said Brad, as the boys started to speak to the pilot.

"Yes, go on," said the pilot, when the boys told him of the lark. "You won't come to any harm, that's sure; for the men don't go off for any bad purpose. It's more for excitement than anything else, and it'll do you good to have a tramp."

"I guess I won't go," said Clare, who didn't relish the long walk. "I'll stay here, and help eat the chickens you get."

The boys teased Clare to go; but he refused, and they finally started off without him. The party consisted of Brad, and his chum, and the two boys. Each carried a grub as a weapon of defence against any dog that might beset them. The night was so dark that they could not distinguish objects a rod ahead of them. They struck off directly across the lots, climbing fences, tumbling into ditches, and running into swamps. It seemed to the boys as if they ran into every mud-hole that could be found on their journey. After walking about an hour, they stopped to rest, sitting down on a log.

"I'm pretty tired," said Sam, "and my feet are dripping wet. I went over boots into a ditch, and filled them with mud and water."

"And I've torn my trousers," said Laurie, "and bumped my knee, lost my hat a couple of times, and found it once down in the mud, where I'd stepped on it, and almost pushed it out of sight."

"O, you'll get over all that in five minutes," said Brad. "We'll rest a while, and then make a roundabout way back to the raft, and guess we'll light on some farm-yard."

They soon started back on a different course, and had accomplished about one half the dis-

tance, when Sam suddenly stopped, and said, "Hark! I thought I heard a sheep bleat."

They listened, and soon the sound was repeated.

"Yes, here we are right close to a barn-yard," said Brad. "Now be cautious, and keep together."

They walked carefully towards the barns, which could now be seen ahead of them, and finding the gate, they were soon inside the barn-yard.

"Now we must find the hen-roost," said Brad, "and then each man load himself. Don't make much noise."



"Now run, boys."

"Here it is," said Sam, as he thrust his stick into a small house by the side of the barn, and an unmistakable cackle came from the inside.

"There are turkeys here, also," said Brad, as he and the boys clambered inside, leaving the other men outside to watch. Brad had only caught the first turkey, when the sentinel thrust his head in at the door, and whispered, "Clear out, Brad; here comes some one!"

"Grab a chicken, boys," said Brad; "we'll have something to show for our tramp."

The boys each grabbed a chicken, and sprang out of the house.

"Now run, boys," said Brad; "keep close to our heels!"

"Thieves! thieves! Bring the dogs!"

shouted some one behind them; and then came the sound of pursuing footsteps.

"Ka-yow! ka-yow!" yelled the chickens, which the boys were dragging along by one leg.

"Confound those chickens," said Brad; "wring their necks!"

But the boys were too scared, and the sound of footsteps too near, to allow them to stop to do that; so the chickens yelled on, the boys dragging them along head downwards.

"Let those chickens drop!" shouted Brad; "they'll follow us as long as they can hear those yells!"



"Thieves! thieves!"

Sam dropped his load; but before Laurie could obey, an unseen accident happened. There was a dry, open ditch in their course, and into this Laurie fell, smothering the last note of the chicken under him. The others fell partly into the ditch, but quickly clambered out, and hastened on without missing Laurie. He was stunned by the fall, and lay a few moments without moving. When he came to his senses, he heard voices close to him, and the yells of men. He concluded they were the voices of his pursuers, and lay still until they had passed. He then rose up, and looked around. He was alone, in a strange place, with men hunting after him, and not knowing which way to go. He finally concluded to follow on in the direction the others had gone.

Just then the chicken gave a reviving squall. "Halloo! you alive yet?" said Laurie. "I guess I'll take you along with me, since I have had so much trouble in getting you." He tucked the chicken's head under his coat to keep it still, and trudged on in the direction the others had gone. His head ached where he had bumped it as he fell into the ditch, his feet were sore from the long tramp, his legs ached where he had struck them against logs, and his clothes were torn and muddy.

"I've had enough of going larking," said he, as he slowly plodded along. "It looks a little too much like stealing, and a fellow don't get enough to pay him for his bruises. I'll bet you don't catch me in another such scrape right off."

Laurie soon heard the pursuers returning, and hid himself behind a fence. He heard enough of their conversation, as they passed, to learn that they had not caught any of the party. After they had passed, Laurie came out of his hiding-place, and trudged on again, stumbling through the darkness, and wishing he was safe on the raft.

"Halloo!" suddenly shouted some one close beside him.

"Halloo, yourself!" shouted Laurie in return.

"Is that you, Laurie?" said the voice, which he now recognized as belonging to Sam.

"Yes; how came you here, Sam? Where is the rest of the party?"

"They've gone on to the raft. I got so tired, I couldn't run any longer, and Brad told me to crawl into these bushes, and stay around here until morning, when they would come back. I saw those fellows who were after us. They came down here, and turned around, and went back."

"When did you miss me?"

"About half a mile back. We reckoned you had hid somewhere to rest, and then, when I heard you coming along talking to yourself, I knew it was you, and so I hailed."

"We can't find the raft to-night; so we'd better find a place to sleep, and stay here until morning."

"We passed an old barn a few rods back. We'd better go there and find a sleeping place."

The boys soon found the barn, and crawled inside through a window.

"Here's hay," said Sam; "we can have a good a sleeping-place here as we could on our bunks of straw."

"What shall I do with this chicken to keep it safe until morning?"

"Let it go; we've had trouble enough with chickens."

Laurie threw the chicken out of the window. The boys then burrowed into the hay, and were soon fast asleep. They awoke the next morning at daylight, their bruises sore, and themselves stiff with wounds. Laurie's head still ached, and their clothes presented a sorry sight.

"I feel about fifty years old," said Laurie, as he crawled out of the hay.

"And I feel nigh a hundred," said Sam, going to the window to see their whereabouts. "Halloo, Laurie! I can see the river. It isn't more than half a mile away."

The boys immediately started for the river, and, after half an hour's walk, reached the raft. They found the men astir, and Brad was starting in search of them.

"Where are your chickens?" said Clare, as the boys entered the shanty.

"Never you mind," said Sam; "they're where you won't eat them."

The boys spent the remainder of the day in nursing their wounds and bruises. This lark quite effectually broke up all thoughts of larking. Only one other attempt was made, and the originator of that came to grief in quite an unexpected manner.

The raft had been tied up about an hour before daylight, to give the hands a chance to rest. A farm-house stood upon the bank not more than a hundred rods from the raft, and Pheelin said he could get some chickens from there, and get back again before daylight.

He found the hen-house, but could find no entrance, except a small window, through which he could hardly squeeze his body. Nothing daunted, Pheelin tried the window, and squeezed half of his body through, when he began to reach around in search of the chickens. His legs outside were kicking around in the air, and they soon drew the attention of a buck, which was confined in the yard. He took their evolutions as a sign of battle, and, backing up, he charged, striking Pheelin in the rear, and causing him to disappear through the window with uncommon quickness.

"What was that? Shoo, there; now don't hit me agin. Who is the man that dare strike a defenceless man unawares?" shouted Pheelin out of the hen-house. But there was no answer. He cautiously stuck his head out of the window, and, looking around, he saw the sheep. "And was it you, you dirty blackguard, that hit me? But I'd like to give you a hit wid me shillelah. What, hain't you going to let

me out? Shoo, now, don't be foolin'," said Pheelin, as, attempting to climb out, he saw the sheep make unmistakable signs of another charge. Pheelin was now in a fix. Every attempt to scare the sheep away was unavailing, and whenever he attempted to escape by the window, the sheep commenced hostile motions. It was nearly daylight, and the farmer would soon be out to attend his chores. Pheelin was getting "unaisy," when a happy thought struck him. He saw that the yard fence only came to the corner of the hen-house; so, should he knock off a board on this side, he could crawl out, and be outside of the yard. After a dint of hard kicks, a board was knocked off, and Pheelin ingloriously retreated through the hole, and started on a run to the raft without his chickens.



"Is that you, Laurie?"

When the raft came to Marietta, a number of gentlemen came on board of it with Mr. Norton, among whom was Mr. Arlington, whose shingles they were running. Mr. Norton had gone on ahead of the rafts to sell the lumber.

"Here is a purchaser for your lumber, boys," said Mr. Norton.

"But I thought we were to run it to Cincinnati," said the boys.

"You can get as much for it here as to run it farther, and many of the rafts stop here."

"I have sold my shingles here, boys," said

Mr. Arlington, "so that you need not keep your lumber back on my account."

"How much have you sold your lumber for?" asked the boys, aside, of Mr. Norton.

"Twenty-eight dollars a thousand, and five dollars for shingles."

"Do you wish to sell your lumber?" asked one of the gentlemen, as the boys walked towards them.

"Yes, sir," said Laurie.

"What is your price?"

"We ask twenty-eight dollars a thousand."

"You are rather high, I fear."

"No, sir; I think that is the usual price."

"I will give you twenty-seven and a half."

"No, sir; we have no lumber to sell at that price," replied Laurie, firmly.

"I'll give you a quarter more."

"No use; our price is twenty-eight dollars."

"You can't beat them down," said one of the gentlemen, who was pleased with Laurie's firm answers.

when they found that each had the sum of one hundred and eighty dollars. This was an enormous sum in the eyes of boys fourteen years old, and they had the pleasure of knowing that they had earned it by their own efforts.

The boys, having finished their business in the lumber trade, started for home, Clare and Laurie returning home with Sam. After staying here a few days, they returned to their own home, where their parents hardly knew the two brown boys as the same that had left them in the winter.

The boys invested their money where it is constantly increasing, and they talk of returning to the lumber trade in the spring. Clare says Laurie has a correspondent in the Oil Regions, and Laurie does not deny it. Should the boys enter into another speculation, you may, perhaps, hear from our young raftsmen again.



Pheelin uneasy.

The bargain was finally made, and the money paid.

Mr. Norton had sold the other part of the raft; so the hands all landed, and made preparations to return home.

The money had been paid to the boys, who hardly knew what to do with so much. They paid Mr. Norton his half, paid off their men, and divided the remainder among themselves,





"The riata shot forward, and settled on the animal's horns."

THE CAMP IN THE GULCH.

I.—THE MARCH.—THE CAMP.—THE LECTURE-COURSE.

BY JUSTIN DALE.

ARIZONA, as a word, has become almost synonymous with *desert*. In speaking of a barren land, if we should say it was an *Arizona*, there could hardly be a more accurate idea of a desert, which was not absolutely a desert, conveyed. For, with its tangled maze of almost unfathomable chasms and gorges, so little penetrated by civilized man; its endless lines of massive cliffs; its diabolical natives; its desolate wastes of sand and rocks, combined with its burning sun and great scarcity of water, — Arizona is, truly, not a realm where the tourist would spend his leisure moments, nor the farmer build his humble cabin. Hence we find that hitherto it has presented few attractions to any but the inquisitive explorer or the eager prospector.

It was my good luck, at a certain period, to stumble through portions of these very wilds, connected with a band of the former class of those itinerant spirits who first break pathways into the unknown regions of our globe, who prepare the way for the subsequent introduction of civilization. We were not exactly,

at the time of which I write, breaking a pathway, as we followed a trail that had already been travelled a number of times by our frontier friends, the Mormons, on their way to and from the seven ancient cities.

Neither was the sun, this autumn day, very familiar. Indeed, he was so distant in his manners, withdrawing behind the fleeting clouds so frequently, that we really would have thought the stories of his great power in this section unfounded, had we not, at an earlier day, had sufficient proof of his strength.

In consequence of his reticent mood, you are satisfied, when you catch your first view of our little train, that none of its members are suffering with the noonday heat. To speak more plainly, the day was chill and disagreeable. The time we were making would not have been envied by a Dexter nor by a Goldsmith Maid, as our pack animals, being laden rather heavily, were more disposed to wander from the trail, and, with a half-famished air, snatch up the bunch-grass that grew in abundance alongside, than to make any extraordinary exertions to get over the ground. Probably they felt that a distention of the stomach was more agreeable to travel on than the vague feeling of nothingness which must be produced by the continual aggravation of a heavy pack and a tight *sinche*. We could not

blame them for stealing a mouthful of the sweet grass now and then; but, not having had anything ourselves to eat since early morning, we were anxious to arrive as quickly as possible at the anticipated House Rock Gulch, where we were to find plenty of wholesome water, and an abundance of fuel with which to prepare our evening meal.

To allow, therefore, the jaded brutes to pick along at their leisure, was not the way to end our day's journey and fill our empty stomachs; so, in true western style, we held forth an occasional exhortation to the wayward, accompanied by a whack from a good stout stick; and the train was kept moving at about a three-mile gait, while some camp-kettles which had been too loosely tied to "old Dick's" pack, kept up a clang-clang, clang-clang, with such a precise regularity, that it must have astonished the old white plug himself, even though he had pranced over mountain and valley, in his present capacity, since he was introduced from Spain by Escalante.



Loading the animals.

Silence reigned supreme. only, once in a great while, when the train was halted to allow a pack to be "fixed." This readjustment sometimes — yes, generally — was the entire repacking of the animal; and, in order that you may understand how this packing is done, in regions where it is the only way of freighting practicable, I will devote a few words to teach you.

In the first place, of course, we must have the animal (not always necessarily a quadruped, but sometimes an aboriginal biped, though the load is differently applied to these latter), be it horse or mule, and, if your "cayoose" is a "broncho" (wild, unbroken), the utmost care must be exercised to keep beyond the reach of his fantastic movements.

Several times on this day had a broncho

tossed a couple of packers rather roughly among the sage-brush; but each time they had recovered themselves immediately, and returned to their work.

Having selected your pack-animal, you want a pack-saddle. (See illustration.) This generally has a breeching to it, and sometimes a breast-strap, to prevent the slipping of the pack on heavy grades. It also has a *sinche* (illustration), made of hair or canvas, which is attached to the saddle by adjustable straps, that completes the circuit of the horse, and holds the saddle firmly in its place.

On the back of the animal is put a blanket, and on this the saddle is placed, almost in the middle of the back. If you are acquainted with saddling a horse in the "States," you know that the saddle is placed high up on the withers, and the girth drawn close to the forelegs — the English style; hard on the horse, and hard on the rider, on successive long days' journeys. "Out west," however, as I have said, the saddle is put fairly on the back, and the *sinche* — not girth — drawn over the middle of the belly. Thus, as long as the *sinche* is kept tight, the danger of galling the back by long rides, or heavy packs, is almost wholly avoided.

When your pack-saddle, then, is in its proper position, you must draw the *sinche* up so tight that, were it done in New York. Mr. Bergh would be instantly after you, with the whole outfit of T. S. F. T. P. O. C. T. A. This tight *sinching* is absolutely necessary, for, though a little cruel, upon it depends the preservation of your horse's back.

Upon the saddle the pack is hung in various ways by various persons, and over it is thrown a blanket or a piece of canvas. Then the "lash-rope" — at one end of which is a *sinche* similar to the one on the saddle, but supplied with a large wooden hook — is applied. This is done in a number of ways, but the one generally adopted is that known as the "miner's diamond," or "diamond hitch," receiving its name from the fact that when the lashing is completed, a part of the rope forms a diamond on top of the pack.

The rope in position, and everything ready, it is "tightened up" after this manner. One packer on the "off" side places his foot against the brute's ribs, beneath the pack, and draws up on the portion of the rope running through the hook, while the one on the "nigh" side hauls in the slack over the top. The rope is then passed round the corners, pulled and tightened until the pack seems part of the horse, and, to conclude, the end is firmly se-

cured. He is packed. All that remains is to step back and let him go. If he has been in the business long, he knows it is policy to fall in the line of the train, and stay there.

Sometimes a pack will get loose unperceived, or through negligence, and then a horse that, perhaps ten minutes before, was so meek and jaded he seemed ready to lie down and—rest, bounds instantaneously into energetic action. Frantically he prances around, and performs somersets and double-action feats worthy of an accomplished acrobat, freely distributing to all points of the compass an endless variety of frying-pans, camp-kettles, coffee-mills, and articles of a similar character, till, relieved of his tormenting pack, he stops. He was “bucking”—that was all. Rather an airy accomplishment that western horses have. Woe to the *poor* rider who mounts a prize buck.* He finds out his mistake without much difficulty, and climbs into the air, out of reach, pretty quick. After our pack-buck^{er} has stopped, he turns, slyly winks at his companions, and, with a vicious relish, drinks in the scene of devastation.

Mournfully we gather up the scattered valuables, and, replacing them upon the gentle creature's back, draw the lash-rope so very tight that, as he moves off to join the impatient caravan, his every step causes him to give a most melancholy grunt, that serves in a measure to atone for his work of desolation.

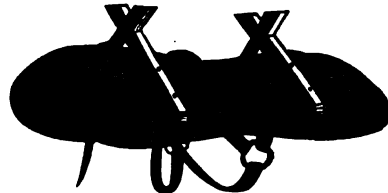
Our train held steadily on its way towards the Kibab Plateau, or Buckskin Mountain, which extends like a huge barrier across the western sky, from the angle of the Vermilion Cliffs on the north far into the hazy south, broken only at one point by the Grand Cañon of the Colorado.

It seemed, from the direction of our trail, that our gulch must be a branch of some hidden valley of the plateau. But it appeared such a long way off, and the bright spot in the clouds marking the sun was already far down towards the horizon. I hoped it was not there. The snow, too, set in bold relief the tall pines, and it all looked so cold and dreary for a camp! We had not our supply of winter clothing yet, and the impudent snow-flake that flitted before me felt like an icicle.

But what right had an explorer to think of discomforts? Was it not his lot? There were dead pines among the others that would make noble fuel, and the blaze would dance and crackle as it reminded us of last night, when we huddled close around the flashing brush-

fire, now chilled by the searching winds, unbroken by a single obstruction, and anon quickly drawing back to escape the fierce conflagration of a fresh supply of brush, and finally retiring to our cold blankets for comfort and protection.

My reflections, however, were superfluous, for the trail began to verge to the north, and, as we neared the plateau, we turned the angle of the cliff, towering close on our right, entering a long, gutter-like valley, about three miles wide, lying between the cliffs and the plateau. It was House Rock Valley. We must, then, be near *the gulch* and the famous House Rock, from which the valley, and gulch, and spring had derived their names.



Pack Saddle.



Hair Sinche.



Lash-rope Sinche.

The Vermilion Cliffs were full of gulches, and we looked momentarily for the trail to turn into one of them, though, from their general aspect, one would not have looked there for water. They lost some of their forbidding impressions, however, as we became more accustomed to the ruggedness, and as the vegetation surrounding began to change from the stunted sage-brush and grease-wood to straggling cedars gathered in groups here and there in the valley, the distant ones appearing, in the duskiness, like hobgoblin troops—the spirits of the ancient inhabitants guarding their desert kingdom from invading footsteps; and at our nearer approach the grim sentinels stretch out their ragged arms in silent remonstrance.

Unheeding, the train moves on, and the long, drear, “siwish” of the night-wind, sweeping down the valley and through the dark foliage, sounds strangely like a solemn warning.

Presently the cedars grow thicker, and

* Don't get the idea from this that men ride on the packs. They don't.

piñon (pin-yon), or nut-pines, are interspersed. As many of both are dead, prospects of a rousing camp-fire are brilliant indeed. We pass, close to the foot of the cliffs, two large rocks, which have fallen from above, and now rest in such a manner that there is quite a space between them — a little cave, as it were. Under the projecting upper edge of one rock I could just read, "Rock House Hotel," inscribed with charcoal. So it wasn't much of a *house* rock, after all; and, as I wondered who, out of the rude frontiersmen, had felt the touch of romance, we rode into a gulch, and stopped. It was the Gulch of House Rock Spring.

The animals were immediately unpacked and unsaddled, and soon found their way to a basin of pure water, where they satiated themselves. The pool was fed by a stream about two inches wide, spurting from a crevice in the rocks, and we rejoiced that we had such an unailing supply.

The camp-kettles were brought up, and carried back overflowing. Everybody washed, was refreshed, and felt as though they could make a desperate assault on the supper, which was already in rapid progress over a roaring fire. Even our two sick men were thawed out by the cheering warmth, and felt amiable once more; one experienced so much comfort that he remarked on the blessings of a bountiful camp.

Our situation, with everything around to make it comfortable, was appreciated. We ate our supper by the flaring light of a huge pine log, and then the two invalids retired in the best of moods.

While four of us were to remain at the gulch, it was decided that the rest, with the sick men in charge, should go across the plateau, forty miles, to the settlement. So, early the next morning, in order that all might participate, if necessary, a bullock that we had driven for several days was brought up from the valley, and cornered back of camp, ready for slaughter. Our gladiator, in the shape of the "General," advanced bravely, and levelled his old "Henry" fairly at the brute's head.

"Crack," the piece went, and the "critter," with a snort, bounded for the valley. The bullet had lodged in the base of the horns. But provision had been made for this emergency. A *vaquero*, mounted on a lively old horse, charged after the truant steer with lariat circling in air; and, as they rose on the brow of a neighboring hill, the riatta shot forward, and settled on the animal's horns. Our beef was brought up, and, after a slight struggle, reluctantly returned.

A second time he was arranged for sacrifice. He was a gentle creature. His large, solemn eyes gazed mournfully on the General as a second "crack" re-echoed through the gulch, and, with a low moan, he sank to the ground. Four tempting quarters soon hung on a convenient pine, and supper found us enjoying a steak fresh and tender.

This evening was to be the last, for some time, with our companions who were going over the mountain, and the last for years — perhaps forever — with one, tried and true, who was soon to breathe the balmy zephyrs of the Orient.

Lounging around the fire, we chatted over bygone days of adventure, and of that time — which danced, *ignis-fatuus* like, so far ahead in the misty future — when we, too, should pass from the Pacific slope, until the smiling moon, riding over the edge of the cliffs, warned us to bed.

The night was cold, very cold for torrid Arizona, the thermometer in the morning indicating $+10$ degrees. We slept as well as our scanty supply of blankets would permit, the sick men getting along very comfortably. My only distinct recollection was an insane attempt I made to throw a small cactus, which I mistook for a stone in the combination of moonlight and drowsiness, at a prowling coyote. My fingers became entangled in the spines, and I hesitated. I thought I had never seen anything so hard to pick up as that cactus. The coyote, meanwhile, with a hateful sniff, trotted off, and I, after disengaging my fingers, turned in again, half frozen.

Unusually early in the morning breakfast was ready and disposed of. The packs were put on, and all mounted but the General, the Captain, and the "Pirate." These three, together with myself, were the company to remain.

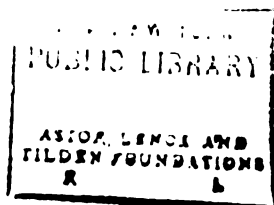
The Deacon had the inflammatory rheumatism. He had it bad. He had it so very bad that, in his helpless innocence, he could do nothing but sing at the highest pitch of his melodious *soprano*, to drive away the melancholy thoughts of dying, and being "planted" by the trail-side, —

"There'll be no sorrow there,
There'll be no sorrow there;
In heaven above, where all is love,
There'll be no sorrow there."

Whenever he travelled at all, he had to ride, and so he would have to ride up the side of the plateau. The climb was a sharp one, and the horse would be tired out; so I had to go along (my luck) to bring him back.



THE POND.



When we reached the foot of the mountain, the most gradual rise was selected, and, after a deal of hard scrambling, the summit was gained, where all were willing to take a rest. A half mile back from the ascent, the Deacon was transferred from Thunderbolt to "Old Doc," a staid and pensive steed. Then I bade them all a final farewell, and turned towards the verge of the plateau, with my cayoose in tow. As I walked along, the Deacon's sonorous voice echoed through the timber, —

"O, Doc! *please*, Doc, won't you go?"

I presumed that Doc had got to studying geology, as the train moved over the exposed strata; but I did not for a moment imagine that he would disregard such an entreaty. It would have moved an orang-outang to tears.

From what followed, I concluded that Doc was possessed of a hard heart, that had been deaf to the Deacon's gentle tones; also that the latter had forgotten there would be "no sorrow there," for he produced a paragraph of persuasion, which, crashing like a whirlwind through the stout branches, actually made old Thunderbolt's teeth chatter. It was a triumph! There was no room for a doubt, and I passed out of hearing, satisfied that as an exhorter the Deacon was a grand success.

Emerging from the timber, I stopped to contemplate the view. First, far away in the north, could be seen the end of the *Poun-saw-gunt* plateau, followed by Table Mountain with its vertical, pink face, and intervening the broken lines of cliff.

Further to the east came the sharp peak just to the right of Table Mountain, and the long line of regular cliffs, swinging round to the Navajo Mountain, which loomed up majestically in its solitary grandeur; while peeping over the top of these cliffs were the five snow-white peaks of the unknown range, lying close to the Dirty Devil River. Between me and the cliffs were House Rock Valley, the Vermilion Cliffs, the Pa Ria Plateau, the narrow cañon of the Pa Ria River, and a vast expanse of broken desert. To the south was the long line of the Kibab, ending in a mass of rugged crags; and an expressionless stretch of weary desert, separated by the narrow but deep gorge of the Colorado.

All was but bitter desolation. There was something fascinating about the view; but to call it beautiful was impossible, for beauty seems to imply charming softness and regularity of outline — a view, for instance, which, instead of crushing one, by its grandeur, with an overwhelming realization of his own insignificance, breathes upon him a soft, eth-

real zephyr, that melts all the harshness of his worldly spirit into rapture, and transports his soul towards an æsthetic throne.

The scene before me was not one of this kind. It was stern and cold. It reflected the brilliant sun with an unchecked fierceness. The dazzling glare of innumerable colors stunned me. The dark gorges seemed threatening to swallow me up, and the ragged peaks to toss me to the sky. I felt lonely. For relief, I gazed with my glass towards the gulch, to see just one sign of reassuring life; but the film of blue smoke that usually marks a hidden camp was dissolved in the shimmering haze.

Like a frightened boy, I concluded I wasn't wanted around there, and started for "home." I went down the trail, with Thunderbolt



A Coyote annihilated.

leading behind, and had gone but a few feet when I found that this broncho, like the generality of western horses, had a will of his own. He didn't believe in going down hill without calculating every footstep; that is, he didn't believe it till I convinced him of the folly of his ways with a Spanish bayonet.

When I arrived in camp once more, I found my companions busy pitching a four by eight observation tent close to the fire. After it was stayed and guyed thoroughly, the captain covered the ground inside with the dry, sweet-scented canes from the spring. Upon these our blankets were spread, and then we stepped back to admire the institution, which pervaded the entire gulch with such an air of comfort.

As darkness settled once again over the valley, and a delicious odor was wafting to any one, but especially to the hunger-stricken coyote (ky-o-ty), from the beef sputtering over the fire, a chorus of the latter saluted us from out in the valley.

"Boys," exclaimed Cap., "I'm going into the fur business! Coyote skins are pretty good now, and I'm going to trap enough to make a robe."

And the first thing the next morning Cap. built a wolf-pen between a couple of isolated rocks, and setting his six-shooter, baited the trap, so that any sneaking specimen of a coyote, attempting to silence the pangs of his gnawing stomach, would be annihilated instantly.

Perhaps some of my younger readers think that we should have taken the war-path against the grizzly, or some other fierce favorite of the far west, instead of trapping coyotes. But they must remember that the west is an extensive region, and one doesn't stumble on a grizzly behind every bush. Besides, the section we were in was most gloriously free from any wild animals but wolves and jack-rabbits, and a few timid deer. You see, then, it would have been a long hunt for a grizzly. The deer were so scarce that we saw but a track now and then; and the rabbits we didn't want. Nothing remained but coyotes; and everybody is ready to take vengeance on them.

We knew wistful eyes gazed longingly, by moonlight, at our beef in the tree. It was a clear case of sour grapes! We resolved, compassionately, to remove a portion of the meat by "jerking" it. In connection with western life, you have often read of jerked meat, yet, possibly, do not know how it is prepared; so I will tell you the manner of our proceedings.

To begin with, the General went to work and built a scaffold; and when that was finished, we lowered three quarters from the pine, and cut the meat off in long, thin strips. These we dipped in brine, and then strung on slim willows. The willows were next laid on the scaffolding in such a manner that the strips of meat swung clear beneath. In this position they were exposed to the heat of the sun, and also to that of a fire. The mercury, in the daytime, being above the freezing point, this combination of drying forces had a telling effect.

We deduce, then, the conclusion that jerking meat is simply drying it in thin strips by the agency of the sun, or the sun and a fire, in order to preserve it in a compact form for future use.

Upon this quantity of beef we spent much labor, and lost the whole of it shortly after; had to stand guard over it one night to prevent the coyotes devouring it as they had every fragment of the entrails.

We were seldom disturbed at night in our quiet gulch by anything but the discharge of Cap.'s pistol, indicating the decease of an investigating committee of one coyote. The Captain was enthusiastic. At the "bang" of the pistol he would jump up, draw on his unmentionables with astonishing rapidity, and dash out into the icy night. We three would wake a moment to be real certain that it wasn't a band of Navajoes, performing a cold-blooded massacre upon us, and then turn over and go to sleep again. In the morning a skinned coyote invariably hung to the little pine by the fire, a sad but silent witness to its own cruel fate.

The novelty of camping in the gulch began to wear off. The General talked of building a stone house, but couldn't get anybody to go in with him. At last he gave it up, and, shouldering his trusty seventeen-shooter, would spend his days scouting around the vicinity, penetrating the mysterious gulches in the cliffs, and climbing to the romantic spots on the plateau.

The Captain, as a rule, would repose languidly in the cushioned tent, dreaming of a fair one far beyond the Rocky Mountains, while the Pirate, with me for a companion, would climb the cliffs, and search for specimens of pottery and arrow-heads, scattered near and far, from the workshops of our interesting ancient Americans, the *Shinomos*.

One evening the Pirate rose and spoke.

"Boys, these evenings are becoming absolutely monotonous. Now I propose, for mutual benefit, that we begin a series of lectures. I've been thinking of it all day, and conclude that there is an ample sufficiency of talent. What do you say?"

"Lectures!" we exclaimed, surprised.

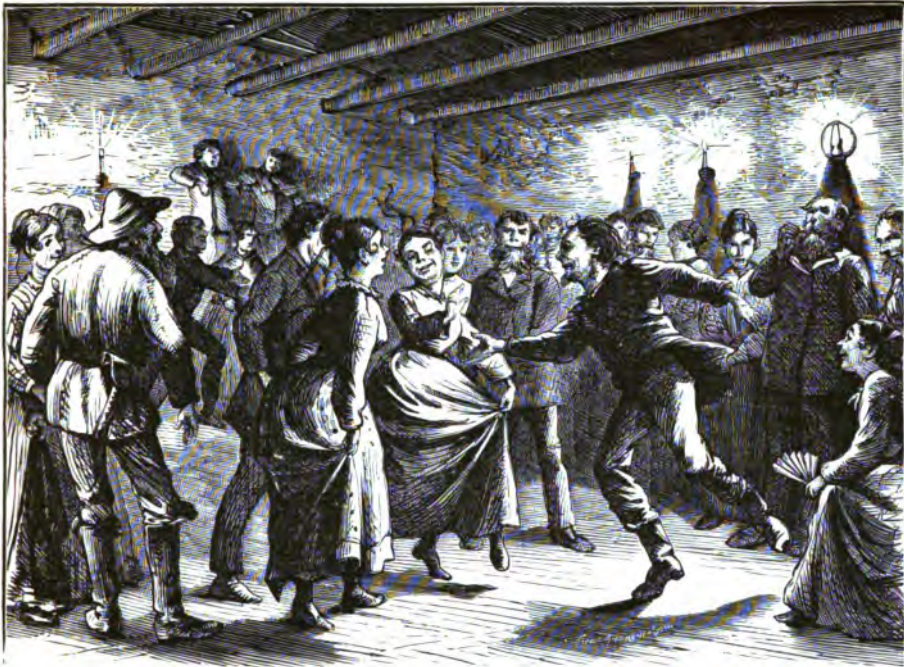
"Call them camp-stories, then, if you will."

"No," put in Cap., "lectures. That's good."

Then the General spoke, glancing from under his broad-brimmed hat with his snapping blue eyes, and spurring a stream of tobacco juice at a live coal which rolled from the fire.

"Well, gentlemen, I ain't much on this science business—don't know much about your sermometers, and threeoddites, and topogrophy, and that stuff, but may be I can tell a story. I'll think of it, any way."

After a consultation, it was decided that the first lecture in the "Rock Spring Course" would be delivered by Mr. — ah — my Pirate; subject, "The Saints in the Valleys in the Mountains." From very short hand notes it will be produced next month.



A MORMON BALL.

THE CAMP IN THE GULCH.

II — THE SAINTS IN THE VALLEYS IN THE MOUNTAINS.

BY JUSTIN DALE

SUPPER was over. The gentle breeze creeping through the gulch was cool and bracing, but not strong enough to whirl the smoke of the fire in our faces. And the fire, too, was a fierce one—one whose radiance seemed to shut us in from the surrounding darkness, and made us feel, after our hearty meal, indescribably comfortable. Above us arched the celestial dome, glittering, from the myriads of stars, with that icy brilliancy so peculiar to the Rocky Mountain region; while now and then a darting meteor reminded us that the apparently steady mass was an infinite number of definite bodies, each one performing its movements with a precision more perfect than the most delicate chronometer. And to think that we and our Latter-Day Saints, whom the Pirate would discuss this evening, were mere mites! But here is the Pirate to speak for himself, and break up my reverie.

He had arisen before the little pine. He rubbed his hands, and began with really the air of a Sumner or a Schurz:—

“Perhaps, gentlemen, you think my title of ‘The Saints in the Valleys in the Mountains’ a little peculiar; and so, I will admit, it is; but it is taken directly from the good Saints’ own speech. Of course you are aware that ‘Mormon’ is a name applied to the Saints only by the outside world, on account of their adoption of the writings of one Mormon, the last of a tribe called the Nephites. The title-page of the work of Mormon is, ‘The Book of Mormon, an Account written by the Hand of Mormon upon Plates taken from the Plates of Nephi,’—then the testimony of the eleven witnesses.—‘translated by Joseph Smith, Jun.’ Thus you see why they are called Mormons, while they style themselves the Church of Jesus Christ of Latter-Day Saints, and in their prayers call upon the Lord to bless them, ‘the Saints in the valleys in the mountains.’ Hence my title.

“It would take me all night were I to tell you the minute history of the Saints; so I will only quote a few questions and answers from their catechism, in order that you may get an accurate idea of their origin. You will also perceive at once that a portion, at least, of the doctrine is as sound as any ever expounded. Here is the book, which I fortunately have with me. It was published at Liverpool, England, in 1855, and is edited by

Elder John Jaques. It begins by asking what your name is, who gave it to you, when you were born, &c.

Q. What duties should you perform?

A. My duty to God, and my duty to my parents, and to all mankind.

Q. What is your duty towards your parents?

A. To love and obey them.

Q. Why should you love and obey your parents?

A. Because it is a command of God, and because they were the means of bringing me into the world: they nursed and fed me when I was a little babe, and now continually love me, and provide food, clothing, and lodging for me: they watch over me in sickness, direct me in health, and teach me to be clean, neat, industrious, and orderly, so that when I have grown up I may be useful.

Q. What is your duty to all mankind?

A. To love them, and to treat them with kindness.

Q. There are now on the earth a great number of religious societies, each professing to be the church of Christ; which amongst them all is the true church?

A. The Church of Jesus Christ of Latter-Day Saints.

"I quote next an answer.

"On the night of the 21st of September, 1823, the angel Moroni appeared to him (J. Smith) three times, giving him much instruction, and informing him that God had a work for him to do, which should cause his name to be good and evil spoken of among all people; also that a record, written upon gold plates, and giving an account of the ancient inhabitants of America, and the dealings of God with them, was deposited in a particular place in the earth, and with the record, two stones, in silver bows, which were anciently called the Urim and the Thummim, and by which God revealed intelligence to his people."

The Pirate read many more, but my space will allow me to reproduce only the following:—

Q. Where and when was the Church of Christ organized by Joseph Smith?

A. It was organized at Fayette, Seneca County, N. Y., on the 6th of April, 1830, and consisted of six members.

Q. Where will the New Jerusalem stand?

A. In Jackson County, Missouri, where a temple, the site of which was dedicated in 1831, will eventually be built.

Q. After the thousand years of peace, what will occur? (This thousand years is the second advent of Christ.)

A. Satan will be again let loose among the children of men, and will stir them up to war against the Saints; but he and they who will obey him will be overthrown, and will receive their final judgment. The heavens and the earth will pass away, and a new heavens and a new earth will be created, on which the glorified, immortal Saints will live and reign as kings and priests, throughout eternity.

"You see, then," the Pirate continued, "our actual acquaintance with our sectarian friends begins about the year 1830, when Joseph Smith first began to expound the doctrines of the Book of Mormon, and was immediately dubbed a 'Mormon.' The world is peopled by many vastly different classes; and it is not surprising that Joseph, aided by his brother Hiram and others, soon succeeded in gaining a permanent foothold.

"Anxious to get beyond the trammellings of other sects, the Saints settled *en masse* at Nauvoo. For a time they flourished; but, as they say themselves, without persecution their creed would not conform to its pretensions. Accordingly, persecution gathered about and all at once burst upon them with a fury they could not resist. Joseph and Hiram were seized and thrown into Carthage jail, as disturbers of the public peace, to await their trial.

"Doubtless they would have been dealt with according to the laws; but as certain irregular proceedings gained greater publicity, the fast-growing anger of the unbelievers was fanned to madness. Resolved not to await the action of slow-moving law, but to administer what they considered justice, immediately a mob hurried to the jail, and murdered Joseph and Hiram in cold blood.

"It was no longer policy for the Saints to remain in Missouri or Illinois, as every moment they were in danger of extermination. They had no leader; but a young man, a Vermonter, by name Brigham Young, already president of the twelve apostles, placed himself for the time being in Joseph's shoes. He took charge of the whole outfit of Saints, Nauvoo Legion and all, and began to seek a new home for his people. For the Saints it was a 'ten-strike.' Probably, of all the men who then believed in Mormonism, or who have since embraced the doctrine, none would have used the clear judgment and good generalship that now give Brigham his notoriety. He perceived instantly that his people must be isolated if

they would prosper. He scanned the horizon for indications of a favorable land. Against the western sky he thought he saw the appropriate spot, and, very consistently and conveniently, had a vision of a verdant, mountain-guarded valley, lying to westward, which he related to his followers. Then he took a few picked men, and pushed forward until he saw the valley of the Great Salt Lake, when he returned for his followers.

"As his selected domain belonged to Mexico, he did not anticipate any disturbance; not, at least, until the Latter-Day Saints had obtained so firm a foundation that they could, from their valleys in the mountains, repel all ordinary assaults.

"Confiding themselves to their God, the Mormons set out on their pilgrimage, and spent the winter of 1846-7 near the present site of Council Bluffs. They left behind sure promises of a return at some future date, to finish the temple which had been begun in Jackson County, and received in return the sneers and curses of the impetuous Missourians. They weathered the storms of the winter in truly a miserable condition, all, at one time, almost starving to death. Indeed, they would have quite gone had it not been for an interposition of Providence, who directed countless numbers of quails straight through the encampment.

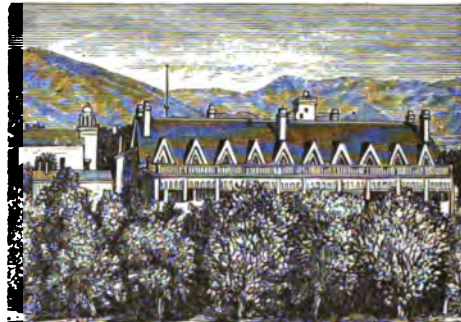
"With ease the fowls were caught and slaughtered on every hand. The old women, even, rendered by hunger too feeble to move about, reached forth from their wretched beds, and clutching the birds, quickly despatched them. Thus it was with tearful joy that they hailed the invigorating spring-time once again, and started to complete their wearisome march across the western rocks to their promised land. They had accidents, and were beset with innumerable dangers; but the accidents to individuals were speedily cured by their 'laying on of hands,' by the elders, while voices from above guided their footsteps through paths of safety.

"Speaking of the laying on of hands reminds me of a story told by Isaac Haight of a circumstance which occurred on the plains. A little boy fell from his father's wagon, and two wheels of the heavy vehicle passed over his chest. He was literally crushed. Many people would have consigned him to death; but the Mormons were not of that class. They placed the poor little fellow comfortably in the wagon, entreated him to hold his faith, and called a council of elders. Hands were laid on, and reconstruction commenced. As

the praying became more powerful, the reaction was greater, until one could plainly hear the bones crack and snap as they assumed their original positions. In a very short time the child was again playing on the wagon-seat, and the caravan pursued its way as though nothing of consequence had occurred. All this —"

"Now, see here, my Christian friend: I hate to interrupt you; but that won't go down. You stifle me. I *must* have a chance to catch a breath. Ha, ha, ha!" laughed Cap, and we all joined the chorus.

"Well, boys, I don't care whether you believe it or not; but those are the very facts that Isaac Haight related, asserting that he was an eye-witness, and that it was but one of a hundred, ay, of a thousand, equally miraculous cases which had happened among the true Saints. He stated further, that any one afflicted could, by *having faith*, be made whole in a similar manner."



Brigham Young's House.

He looked around.

"Go ahead," said the General; "we've nothing more to say."

"Then, to proceed: besides the hardships of plains travelling, our pilgrims had to keep a constant outlook for hostile Indians, and be ever ready to check a stampede. One fine day, however (July 24, 1847), they found themselves beside what is now called City Creek; and, like Columbus and Cortez, and other pioneers, Brigham's first action was to return thanks to the Almighty for their safe arrival in their 'Eden.' (How much it resembles an Eden!) Provisions began to become a scarce article, and they turned their attention to hunting something to eat. They found a species of lily, the bulb of which was eaten by the Indians, and called '*sego*.' These grew abundantly, and upon them they depended mainly for food. In addition were a wild cabbage and numerous varieties of roots and

herbs, which they collected in large quantities, in preparation for the coming winter.

"They labored unceasingly to get all in order before the winter; but the few short months slipped rapidly by, and, almost before they were aware, cutting blasts swept down from the great Wasatch range, buried under a thick blanket of snow. They quailed some before the dark prospect, though all did their best, until their dogged perseverance, and faith in their revelations and prophecies, carried them through.

"Before another winter could catch them unprovided, the city by the Great Salt Lake had assumed a definite shape, and the State of Deseret flung its banners to the breeze over Brigham's throne. I say 'throne,' for it was nothing else. Was Brigham — now appointed by divine revelation the prophet, seer, revealer, president, and glory of the Church of Jesus Christ of Latter-Day Saints, and elected governor of the State of Deseret by his subjects — aught but a king? Who would dare to question his revelations? Who would dare to utter the slightest hint against the monarch of this theocracy? Some there were, subsequently, who dared; and, if we are to believe confessions, the *Destroying Angels* quickly tied their troublesome tongues.

"The little settlement rapidly acquired a basis. A stream of immigrants poured in, and one by one the *adobe* huts shot up in the clear sunshine like toadstools. Prospects brightened. The missionaries in Europe and in the States pictured with charming colors the vast fertile garden in the valleys in the mountains, and hundreds of beings, who could hardly earn their daily bread in the old countries, were enraptured by the glowing picture, and eagerly embraced the creed which should so speedily transport them from their drudgery to an almost earthly paradise. Therefore they came to the valleys in the mountains. Distance had, indeed, lent enchantment to the view, for on closer sight they found no variegated garden-land, but a rugged, barren wilderness. Did not some of them heartily wish themselves back to their old homes? Possibly, and probably. But, could they have returned, many would not have done so after a few months' residence in Mormondom, for there were no influences to counteract the teachings of the Church, constantly sounding in their ears. The fact was, that they began to think that the doctrines were right, and that *this* was their destiny. Most of the converts were narrow-minded people, and Mormonism, appealing to superstition, closed about them with

an unyielding grasp. Thus most of the poor creatures became downright Mormons, simply because they could not help it. They had not the moral power, nor the intellectual training, to resist its supernatural ideas.

"After the settlement of Salt Lake Valley, scouts were sent out with small exploring parties into the surrounding unknown regions. Sites for new settlements were selected, and gradually the territory began to assume a civilized appearance."

The Pirate then told how the State of Deseret was ceded, with other territory, to the United States by Mexico, and was entitled "Utah;" how Brigham was appointed governor, and served until 1857; and many other interesting things, which I am obliged to skip for want of space.

"Until the Union Pacific Railroad poured its flood of 'Gentiles' into the Mormon realm, something like hatred existed between certain classes. It is asserted that no unbeliever's life was worth much if he uttered a word against Brigham or the Church. Brigham, it is claimed, once delivered a sermon in which he swore that he would send all opposers 'cross lots to hell.' To facilitate his movements, he organized a band of 'Destroying Angels,' with Bill Hickman at their head. The latter has since made a confession, in which he accuses Brigham of authorizing some of the most diabolical deeds. But there are many reasons for believing that the confession is merely a fabrication, made to sell. At any rate, what would one believe from a man who confesses such cowardly deeds of murder?

"John D. Lee and Isaac Haight are other Mormons notorious for their alleged wickedness. The loathsome tragedy of Mountain Meadows, it is said, was enacted under their direction. Lee boldly asserts that he had nothing to do with it; says he is a kind-hearted man, and cried like a child when he found that his brethren were bent upon exterminating the audacious Missourians. When we compare this affair with the action of the Missourians against the Mormons in early days, we see that it is but natural that the latter should thirst for revenge. They took ample vengeance! Although Lee claims innocence, he swears he will not be taken, as it would expose members who 'did the deed through their great zeal in serving the Church.' Therefore he is constantly armed with a seven-shooter and a seventeen-shooting rifle; and though I camped by his farm for three weeks, I never once found him off his guard. The click of a gun-lock would draw his eyes in-

stantaneously. Once, when I borrowed his only saddle to ride out to the settlement, he said, as I mounted, 'Tell the boys' (my companions who remained) 'it would be no use to try to take me, for among these rocks I could defy an army.' We could have taken him a hundred times before that; but that wasn't what we were there for—"

Bang! A pistol-shot.

"There's your confounded wolf-trap! Let it go now; I want to go on. — Polygamy comes next. As you know, that is the most objectionable feature of Mormonism. It does not belong properly to the Book of Mormon, but was an afterthought—I mean, a subsequent revelation. For a long time it held its own with all, some of the Saints investing heavily, John D. Lee, of whom I spoke, having had some sixty wives and seventy-two children. As a rule, three or four wives was the maximum.

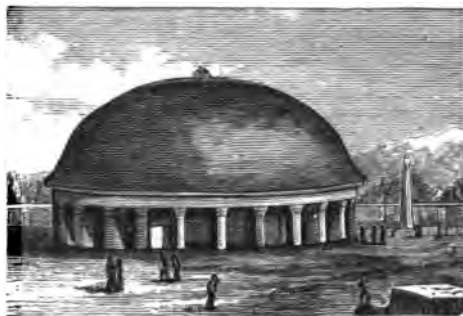
"At present polygamy is on the decline with all who care anything about the opinion of the world; but what can you expect of people reared in those valleys in the mountains, where schools are very little known? Think of young men and women who can scarcely write their own names; never saw a railroad; don't know whether London or the United States is the bigger, and are taught to believe that those familiar cliffs and mountains are *their* property, with which the United States government has no right to interfere; and that 'Brother' Brigham is the being endowed with unlimited powers, whom they must look up to and worship. And it is not only the younger class who know nothing, but most of the older ones know still less. To be sure, there are some 'smart' men in Utah, but they are always sure to have a high and lucrative position.

"To outsiders the Mormon women always endeavor to appear cheerful; but to any one who can sympathize with their woes, and gain their confidence, they will pour forth tales most awful.

"Many of the writers on the Mormon question have seen only its bright side in Salt Lake City and surroundings. One can only get at the reverse side by travelling south among the poorer classes. Many a wretched woman is sorry enough that she ever left her native land, but she can never return.

"Some of our Mormon 'brethren' have more wives than they can support, especially if they happen to be constitutionally weak. So the wives have to support themselves, and, if they prove good hands at it, their hubbies

also. Many poor families in Utah live upon green corn, melons, and squashes during the autumn, while at other times they get along the best way they can. Sometimes they have flour and corn meal, and sometimes none. Most of them have cattle, which can graze on 'the range,' and therefore cost nothing to keep; so, however poor, if a Mormon family have a cow, they get all the sweet cream and fresh butter they want.



The Tabernacle.

"Coffee, tea, and strong drinks are set forth as injurious in the Book of Mormon, which is very convenient for those who cannot afford to buy any. Those who can afford it disregard the advice; those who cannot gracefully accept the other alternative. I always noticed one thing, though, in a certain town where I happened to be once, viz., that if anybody was sick, some one would come and beg or buy coffee, or tea, or sugar from our rations, as no medicines could be found within eighty miles. And if any came to our camp, they would generally drink our tea and coffee to a greater extent than any one else. Wine, too, is made in great quantities in 'Dixie,' and sold or exchanged cheaply, the result being most shameful drunkenness of the younger people at certain periods, — the young men, I mean. 'Dixie,' I would say, is a name applied to the lower valley of the Virgin River; and *apropos*, I will sing you the song 'Called to Dixie,' which I have often sung before, but which will fit in just here first rate: —

Once I lived on Cotton-wood,
And owned a little farm;
But now I'm called to Dixie,
Which gives me much alarm.
To raise the corn and cotton
I right away must go;
The reason why they called on me
I'm sure I do not know.
I yoked up Jim and Bolly,
All for to make a start
To leave my house and garden,
Which almost broke my heart.

We rolled along quite slowly,
And often looked behind;
For the sand and rocks of Dixie
Kept running through my mind.

At last we reached the Black Ridge,
Where we broke our wagon down;
We couldn't find a carpenter,
For we were twenty miles from town.

I cut a clumsy cedar pole
And fixed an awkward slide;
My wagon *ran* so heavy
That Betsey could not ride.

When Betsey was a-walking
I told her to take care;
But all upon a sudden
She struck a prickly pear!

Then she began to blubber out,
As loud as she could bawl,
'O, if I was back on Cotton-wood
I would not come at all!'

At last we reached the Sandy,
Where we could not budge at all;
Poor old Jim and Bolly
Began to puff and loll.

I ripped and swore a little bit,
But couldn't make the route,
For myself, my team, and Betsey,
Were all of us gi'n out.

At length we reached Washington,
Where we stopped a little while
To see if the April showers
Would make the Virgin smile.

But O, we were mistaken,
And so we went away;
For the red hills of November
Look just the same in May.

I brought this old coat with me,
About two years ago;
And where I'll get another
I'm sure I do not know.

If Providence protects me
All from the wind and wet,
These times me nor Betsey
Never will forget.

My shirt was colored with dock-root,
A grease-wood for a set;
I'm sure it will all fade out
If it once gets wet.

They say they have found madder,
And indigo so blue;
It all turned out a humbug —
The story was not true.

It is so sad and dreary —
There's nothing here to cheer
Except prophetic sermons
We very often hear.

They hand them out by dozens,
Prove them by the Book.
I had rather have six roastin' ears,
And stay at home and cook.

I have had the chills and fever
Until I'm almost dead.
'Twill be seven weeks next Sunday
Since I have tasted bread.

Carrot tops and lucern
We have enough to eat.
I'd like to have my diet changed
To buckwheat cakes and meat.

My wagon went for sorghum seed;
To get a little bread,
Poor old Jim and Bolly
Long ago are dead.

None are left but me and Betsey
To hoe the cotton tree.
Let Heaven reward you, Dixytes,
Wherever you may be.

"You see, then, that all was not lovely in Dixie in early days. The composer of the song is now enjoying his old age in Salt Lake City. Clothing was not as plentiful as it might have been, and I know of one family who even now go barefooted and in rags for nine months out of the year."

The Pirate then spoke of the mineral resources of Utah; the mines, and the miners; reasons why the Mormons did not early work in the mines, &c., all of which I am obliged to omit for fear of crowding my columns. Next, he told of the industry of the Mormons, for which I shall find room.

"The Saints are generally termed a very industrious people. I will admit that some are, and again I will admit that some are lazier than Digger Indians. They are industrious, but not energetic. Those who are endowed with energy are sure to be bishops, elders, first counsellors, or something or other, where they will have the handling of the tithing, and are the corner-stones of the church.

"This tithing is a sort of tax upon each producer, to defray the expenses of the government (i. e., the church), and in this case the word means a tenth part of each family's earnings or produce. Thus, if a man raises ten bushels of corn, he must deliver the tithing, or one bushel, to the bishop of his town. From the store thus formed the bishop draws, to entertain any travellers who happen along, as, he being the head man of the town, his house is as a hotel; all strangers are directed to it, as a rule, to 'put up.' Almost invariably he gets paid for his services by Gentiles, and it is not surprising that, betwixt it all, a bishop is always the wealthiest man in a town; and without difficulty you can single out his house from the others by its greater proportions, finer finish, and better architecture, unless the town happens to be the residence of a 'president,' when *his* house will be the finest. So now, if any of you ever get into a Mormon town (as you will soon) where there is no hotel, steer for the best-looking house you see, and you will not miss the bishop's, where you will always find the best to be had. Perhaps a dance will be in progress as you ride up, if it is a frontier settlement where they

have no large public buildings; though generally their fandangoes are held in the school-houses and meeting-houses, it being no sin, as dancing is a part of the creed. I will tell you about a dance I went to one Christmas night. It was held in a little stone building, which served as school-house and meeting-house, temple and tabernacle, city hall and a rendezvous for trading Navajoes; it was fifteen feet by thirty, in width and length, and some twenty feet high. It was situated in one corner of an old fort or stockade; and its four windows, opening into the arena of the fort, glowed with an inviting brilliancy upon the night in question, when, after our ride through the chill wind, we galloped up. Strains of violins came merrily through the cracks; flitting forms told that the fun had already begun. Dismounting, we entered.

"Two sets were all the floor would allow in action at once, and they were skimming around lively enough. All round on seats sat young ladies and youths, old ladies and old gentlemen, with intervening gradations. Each of us received a number, on entering, according to the rules; for as but sixteen persons could occupy the floor at once, the male attendants were called up in regular succession by their numbers. You know I am always backward in such dashing assemblages; so I retired to a corner to watch how things progressed. The room was bare, with board floor and glaring rafters, while across the latter lay a row of muskets, ready for an emergency. Darkness was dispersed by three tallow candles stuck on boards against the wall, a kerosene lamp, and a roaring pine log in a huge fireplace.

"The violins kept up a constant flow of music, interspersed with—'Ladies, change!' 'Gentlemen, forward!' and the like, while the dancers, throwing off all formality, entered into the spirit of the occasion with a vehemence never seen in a fashionable ball-room. Some burly fellows would come in from without just as their numbers were called. The room was warm. They doffed their coats instantly, grasped a partner with a word or two, and away they went, commencing with a bowing salute, varying and indescribable.

"The fair damsels, too! clad in neat calico, radiant with smiles, their hair anointed with delicately perfumed pomades (butter!) until it resembled patent-leather, and formed on each temple an exquisite 'beau-catcher,' with red, yellow, blue, green, indigo, orange, and violet ribbons fluttering in the local whirlwind, were simply gorgeous. They sailed around like nymphs from fairy realm."

Then the Pirate told us of the farming facilities, the rivers, the lakes, and the mountains of Utah, and concluded with the following:—

"About 1869, Orson Pratt invented what they call the Deseret Alphabet. The Book of Mormon was printed in it, and it was taught in the schools, with the view of making it the sole system of the state. But it proved too much of a problem for the majority of the brethren, and so it dropped into obscurity. and I only obtained this volume through a friend in the ring. It is merely a system of phonography, with new signs, and as the signs are all very complicated, it cannot be written without great labor.

"With another word I am done. The Saints have many faults, but they have been dogged around enough to compensate. They have utilized these valleys in the mountains, which would not have been done for years hence. Then let us treat them like friends, hoping that the problem of the extermination of polygamy may be solved with satisfaction to all—by a new departure; or, in other words, by a revelation from on high."

The Pirate sat down. It was agreed that no remarks should be made; so for a few moments we all sat staring blankly at the glowing embers, until Cap, starting up, said he must go and get his wolf.

The chronometer indicated twelve o'clock. It was time to "turn in;" so, after drawing closer to the fire, to get thoroughly warmed, we were about to retire, when the General spoke of our next lecture.

"O, yes; who'll follow me?" asked the Pirate.

"I will," exclaimed Cap, as he came into the light of the fire and threw down the carcass of a wolf. "I will. Subject: The Shinomos, or the Artists of Nature."

"Very good," we said.

NOTE. Cotton-wood is a creek just south of Salt Lake. Mormons are "called" from one settlement to another. Virgen is the Rio Virgen. Grease-wood is a bush similar to the sage-brush. Lucern is a species of clover.

A man named Rigdon attempted to become the permanent president of the church, but was defeated by Brigham Young.





SHINOMOS AT HOME.

THE CAMP IN THE GULCH.

III — THE SHINOMOS, OR THE ARTISTS OF NATURE.

BY JUSTIN DALE.

“ONCE upon a time, my friends,” began the Captain, in that old-fashioned strain which used to give such a deep mystery to our childish fairy tales, and which now caused us to prick up our ears for a lecture tinged with a coloring of romance; “yes, once upon a time, possibly long centuries ago, a far different class of beings from what we now find here inhabited these cliffs and mountains, and trod the ground round this very camp-fire, as is proved by the remains of their houses, which we find scattered around, and the abundance of arrow-head chips and broken pottery. These people were called Shinomos, meaning ‘wise men,’ because they were versed, to a certain extent, in agriculture and the arts. They were not as highly civilized as the old Toltecs must have been, or as the Aztecs were; nevertheless, they were a remarkable race, and at one time may have been subject to the Aztec rule, though dwelling so far from the capital. Their intercourse, however, with the Aztecs, is doubtful; for we find their picture-writing less systematic, and no traces of any

other instruments than those which they manufactured from wood and stone, while the Aztecs wrought bronze very extensively.

“Like the latter, they have gone to their last resting-place, leaving behind but a remnant, who have gathered together in the ‘Seven Ancient Cities,’ and, while defending themselves against the attacks of enemies, are becoming each day less and less. A few more short years, and the only proof the tourist will find of their existence will be the crumbling ruins of their towns, the ruined dwellings and towns *now* scattered over the southwest, and the mysterious hieroglyphics which are inscribed on the rocky tablets, proclaiming a wonderful tale, that silently petitions for a translator.

“Distinctly I remember the first I ever saw of this peculiar writing. We were camped on the bank of Green River, at the northern extremity of the Uintah Valley. Two or three hundred yards back of camp arose a cliff of homogeneous sandstone, some two hundred feet high, and upon its smooth base the geologist discovered some figures utterly incomprehensible. He came to camp and spoke to several of us, saying that he had made an interesting discovery, and if we would follow him he would show it to us. Leading the way to the foot of the cliff, he stopped. It was

evening, and growing dusky; so at first we did not perceive the inscriptions, but thought Stoneman had stopped to examine some diversity of strata with a geologist's eye, and would soon go on. Instead, he turned, and smiled mysteriously. My companion said, 'Well!' while I, at the instant catching sight of the carvings, uttered an 'O-o-o-h!' and sprang closer, with a 'Who do you think could have done this?'

"Never having seen anything similar, we were fascinated. We searched along, and found others of a like rude nature; then, as the darkness grew deeper, our steps were directed towards camp, there to discuss the strange pictures, to determine, if possible, who had been the artists.

"Indians must have made them; for what object would a white man have in chiselling such stuff on the rocks? we reasoned. And then came the question, 'By what Indians were they made?' This was the Ute's country; therefore it occurred to us that *they* were the artists. If they could, they must solve the riddle; and we resolved to button-hole the first red-skin we came across, and entreat him to explain. Armed with a sketch and a negative, there appeared but one difficulty; and that was, no one could speak or understand a word of Ute, except Bothwell, who had been 'out west' once before, and, somewhere, had picked up the phrase, 'Anna nea Pi Ute inch, cotch am bana,' which he carefully defined as meaning, 'What do you call this in Pi Ute?' His right there was none to dispute; so we learned to speak the sentence fluently, and tried to feel satisfied that it was what we wanted.

"A sharp lookout was kept for more inscriptions, and for our interpreter that was to be. He came even sooner than was anticipated; for one morning, as we were eating breakfast and chatting quietly, a shout warned us of some one's approach, and an Indian, with a 'How-how,' rode into our camp. He was bedecked with paint, and dressed in his finest suit, at least in a very gaudy array of buckskin, red flannel, and beads, and, dismounting, squatted upon a little knoll, just as though he was one of the family. How many more there might be at his heels we could not tell, and, as long as they kept away, we did not care.

"We offered our beaming savage some breakfast, which he caused to vanish as though he had not had a morsel to eat since the hour he was born. Then telling us, by means of gestures, that he would meet us farther down, he jumped on his steed, and was off.

"After starting, we had not gone far before we came upon his 'wicky-up' (you know what a 'wicky-up' is — a little shelter constructed of boughs) and his family. The latter was composed of his squaw, two horses, and a small dog. Now, in the midst of his possessions, was the time to get him to solve our problem; and our artist produced his sketches. Presenting them at the aboriginal, he exclaimed, with acute accent, 'Anna nea Pi Ute inch, cotch am bana?'

"The Indian took the sheets, gazed at the little black figures solemnly, and muttered something in his dialect.

"'Pshaw! you didn't say it right,' said Bothwell. 'Here, let me talk to him. — Anna nea *inch*' (tapping the paper with his finger). 'Pi Ute, cotch am bana?'

"Quietly laughing, the Indian said nothing, though he must have thought we were a pack of idiots to talk so much about a bit of paper, that to him seemed but good to wrap a 'cigarrito.' Bothwell was nonplussed. He walked off without a word. The artist exclaimed, in disgust, 'Confound him, he don't know his own language!' and, snatching the papers, returned them to his portfolio. It was a forlorn hope. Either the savage knew nothing about the pictures, or he did not understand us. I have come to the conclusion that both causes produced the difficulty, and we left him unceremoniously to himself, his family, and a package of smoking-tobacco.

"Not until all this passed did it enter our heads that the designs were the work of the ancient inhabitants of this region — the Shinomos. Ruins of their dwellings, we knew, were scattered throughout Utah; but as yet we had ourselves seen none. We began to see that no one else would have placed the writing on the rock; for, if the Aztecs were so proficient in picture-writing that they could, in a few moments, record passing events so minutely, it would not be strange that the Shinomos, an allied tribe, should be guilty of writing their history, or the history of certain 'clans,' upon the rocks near by their dwellings. The Shinomos, then, were the artists; and we sailed on down the great river, ever alert for new proofs of their habitation. These came in succession, rapidly, and at the same time grew more interesting."

I expunge a portion of the lecture, where the Captain told about several discoveries of little importance, such as fragments of pottery, &c.

"No new signs then occurred until we reached Stillwater cañon, when, one night, —

or evening, — as the photographer was scrambling among the rocks, he discovered, far up the side of the cliff, some funny little huts, built between shelving rocks. He called down for those who had leisure to come up and see what he had found. I, for one, climbed up; and, as everything likely to prove Shinomo began to be of all-absorbing interest to me, I was delighted.

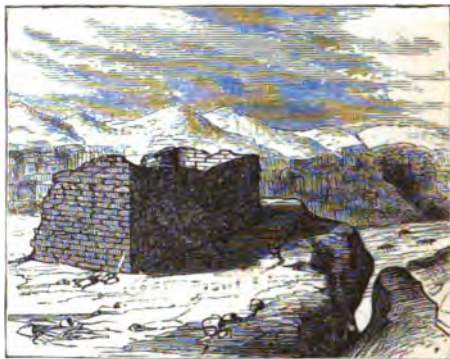
"We raked over the dry dust of ages, it may have been, lying inside the huts, and found various little proofs that they had, at some earlier date, been the homes of human beings. The most striking were a few small corn-cobs, dry, and almost as hard as stone. These we captured and carried down to camp, when we had sufficiently inspected the buildings. The colonel had also returned from a tour of discovery, having found on a flat point near the river, and some fifty feet above it, the ruins of several well-defined houses. Around these the ground was strewn with the fragments of pottery, &c., showing that they must either have lived here a long time, or been rather rough with their *china*.

"Towering on all sides were the almost vertical walls, rising about twelve hundred feet; and at first sight one would have supposed it impossible for any one to get out. The colonel, however, had found an easy path, in one direction, to within three or four hundred feet of the top, when a perpendicular ledge, over twenty feet in height, caused them to halt. At the bottom of the ledge there was a narrow *talus*, or slanting mass of debris. Following this around, as it afforded a firm foothold, and appeared strangely compact, they came (there were two others with him) upon several dry, pitch-pine poles, braced firmly in a crevice. White with age, they had, doubtless, in this dry climate, stood there many and many a long year.

"Knowing that the piñon pine decays very slowly, and these poles seeming quite strong, one of the little party tested them by climbing up, while the two others braced themselves below to catch him, if the timber should give way. Then twilight began to steal upon them, and they had to hasten down, first, however, determining to follow the path out on the morrow.

"Around the camp-fire that night we had a good talk about the Shinomos; and the situation was somewhat romantic. As one of the boys observed, we could almost feel the magic presence of the departed race, and see them cultivating their little patches of corn, working diligently at their stone arrow-heads,

knives, &c., or skipping from rock to rock in the ascent of the cliff. And in imagination we saw something else. We saw the brave little clan hemmed in on all sides, and showers of arrows falling thick and fast from the verge of the cliff, black with the enemies of the Shinomos, with the oppressors of the 'wise men.' These foes of the mild-natured civilians were rapidly driving them from the country, and appropriating it themselves; and now all that are left are the Moquis. The colonel, having spent some time among the inhabitants of the Seven Ancient Cities, related many curious things of them. Their towns are built on high cliffs, called '*mesas*' by the Spaniards, in order that they can better defend themselves and their flocks, and afar off discern the approaching enemy. The houses can be entered only from the flat roofs, which are gained by long ladders. In case of an attack, the ladders can be drawn up, and the town resolved into a comparatively formidable fortress.



There stood a House.

"One town is built on what might almost be termed an island, accessible only by a narrow isthmus, or causeway, whose sides make a precipitous plunge of several hundred feet. Upon the approach of the enemy, the town-side of this passage was all that it was necessary to guard; and there a handful of men could repel a host. A small band of Navajoes, — numbering some twenty-five, — by making a charge, once attempted to break through this barrier, and gain the heart of the town; but their bleaching bones on the rocks below are ample testimony of their success, and serve as a fair warning to future operators.

"Their flocks of sheep were in constant danger of being driven off by the Navajoes and the Apaches; so corrals were constructed of stone; and upon the slightest warning the shepherds hurried the flocks up the cliffs; and

once in the corrals, they were safe. Below the towns, by means of irrigation, corn, cotton, peaches, and garden vegetables are cultivated.

"The agricultural work is done almost entirely by the men, while the women remain in the vicinity of the houses, and prepare the meals, weave, or do some other light work.

"Usually their repast consists of a pot of soup, from which they help themselves in the most convenient manner. As an accompaniment, they have a peculiar bread, called '*pe-les*,' which is made from corn flour, in thin sheets, resembling somewhat the coarse variety of wrapping-paper, and varying in color, some being red, some blue, some green, all according to the color of the corn from which it was manufactured.

"The sheets are packed away, for keeping, in rolls; and these rolls, to the Moquis, or the Shinomos, are the staff of life, just as our loaves of wheaten bread are our staff.

"When not otherwise employed, the women spend their time at the loom. And you think it strange, no doubt, that such savages should have looms; but their loom does not resemble the intricate piece of machinery we find in our factories, for it is but the embryo of that. It is merely a heavy frame, upon which the foundation-threads are stretched, while the dusky weaver dexterously passes his bobbin—in the shape of a long bow—in and out between the threads, in the process of 'filling.' Upon this rude machine they construct some really beautiful blankets, which bring a high price among white traders, on account of their solidity and durability. Many of them are so closely woven that the hardest rain is shed as from a piece of sheet iron. And, after all, they are more like sheet iron than anything else when they get wet, for the fibres become rigid as wire.

"An industrious Moqui will sometimes spend months of steady labor upon a single blanket, weaving an endless variety of figures in gayly-colored wool; and, when at last it is completed, he journeys into the adjacent land of the Apaches, or the Navajoes, or the Cohoninis, or the Mormons, and disposes of it for the small consideration of a horse or two. Besides blankets, they weave sashes, stockings, garters, and similar articles, which they trade profitably to other Indians when they get tired of them.

"Their ceremonies and dances are impressive and interesting; but strangers are not always allowed to witness them. Their religious rites are in keeping with the strange

creatures themselves. What seems almost idiotic to a stranger is a foot-race, performed each morning by certain individuals for about an hour, around concentric large circles. An Indian, almost nude, will come out, and start around the largest circle at the top of his speed, and will keep up that rate until the time to stop, when he retires.

"Worship of idols is conducted in the underground temples, or kivas, where the holy fire is kept burning, and where are all their records and paintings.

"At present these children of Nature are watched over by a fatherly Indian agent and his son, who are fast getting an accumulation of paltry dollars in that most mysterious manner so well known to all Indian agents. These guards of the Moquis effect their purpose, for one way, after this manner: Large quantities of cotton goods, tin ware, boots and shoes, traps, axes, &c., are annually sent to this agency to be distributed amongst our aboriginal citizens. But it happens, and perhaps quite luckily for their happiness, that they do not like boots and shoes, tin pans, and some other things; consequently, instead of wasting such valuables upon savages, the ingenious and noble-hearted white men have struck up a brisk trade with some of the Mormons, whom the Pirate told about; and now each autumn a well-laden pack-train winds its way to the settlements of the Saints, conducted usually by the church's agent for southern Indians.

"As government goods are always better and less expensive than any others, the traffic is one which pays heavily on the capital invested. But I find that I have wandered somewhat from my strict subject; and so I will go back to our camp near the ruins.

"When the colonel had finished telling us those facts about the Seven Ancient Cities, we turned in, some to dream of the rehabilitation of the gulch by the phantoms of the wise men, and some to sleep the sleep of the righteous. To me it seemed but a few moments before I awoke to find the sky above faintly illuminated by the first gray streaks of dawn. It was not long before all were up, and then our plain breakfast was disposed of in haste, for we were anxious to give the gulch a thorough inspection. Two or three of us picked our way to the ledge, or table, whereon had stood the Shinomo hamlets, and from there watched several others climb the cliff, and help each other, like pygmies, up the ledge, that to us appeared but a stepping-stone. Then they disappeared round a projection, and we turned to investigate the ruins.

"The houses were almost gone, only one having walls of any height, though all were well defined in form. This best-preserved house was about twelve feet wide, and twenty feet long. How high it had been it was impossible to estimate, as but six feet of the walls stood; though it is probable that it was but one story, having been built rapidly, and with danger lurking close at hand. We found in a narrow crevice remains of a rude stairway to the river, built, most likely, to obtain water for household purposes. The brightest of the chalcedonic chips and the prettiest pieces of pottery we collected, and then sat down in the shade of the large ruin to study the silent home of the departed race. Here on this very spot the children had sported in their innocence, and made the solemn, silent cañon resound by their merry laughter and wild shouts in their musical language. The fragments of pottery, ground round, and punched with a hole, which we had found lying beside the ruins, had, in all probability, been formed by the children as toys. They had played with them, and tossed them around, and thought what wonderful things they had made; or had pretended to 'keep house' up under the sheltering ledges, just as you may have done many a time in a pleasanter locality.

"And below waved the field of yellow corn, sending aloft the music of its rustling leaves, while the dark-skinned harvester plied his knife of stone. In the houses, the fairer sex were grinding corn to make bread, or shaking the life out of some little brazen-lunged rascal, who had ventured too near the edge of the cliff, and risked tumbling over.

"All these things passed vividly before us, and we almost began to imagine ourselves in some foreign clime, and felt for our letters of introduction. Would that it could have been so! But no; our artists, our wise men, were gone. Where?

"The picture, relieved of its romance, was but a gulch of the cañon, rugged and desolate. The red rocks towered towards the sky; the old farm was overgrown by dense willows; the houses were in ruins; and the only signs of habitation were our quiet camp, a half mile away, and three boats floating on the glassy stream against the bank. Hunger began to suggest a return after a while; and, without further delay, we wended our way back through the willows to camp.

"The others came in soon after, bringing with them a huge pot of earthen ware, which they had found, quietly awaiting a discoverer, in a nice, dry nook under a projecting

rock, where it had, perhaps, rested over a century.

"It contained several coils of willows, split, ready for basket-making, which were so tender with age that they snapped under the slightest pressure. Around one bundle was tied a small piece of cord, or rope, so rotten now that it came to pieces on being handled. It was made from reddish-looking fibres, and was well twisted.

"The pot itself was still somewhat black on the bottom, from exposure to fire; and we all looked upon it as an invaluable relic — which it was; but it was destined never to reach the settlements in its natural condition, as, a short time after, it was accidentally broken into small pieces.

"The path out had been an easy one, for the aged poles had sustained the party without showing any signs of yielding; and, once up, they found no more difficulties, but went out on the plateau with ease.



It might have been a portion of a Royal Tea-set.

"This consecrated spot was left with regret, as we went on, and we found nothing more of importance until Milicrag Bend was reached. Here we found several caves in a detached cliff. In front of these caves were two or three acres of soil, available for cultivation, and the rare prize had not escaped the Shinomos. Selecting the caves for their dwelling-places, and the ground for their farm, they must have lived in comparative security, for a time, here in the heart of the desert.

"The openings of the caves had been walled up, except an aperture answering for a door, and in one a second, serving for a window. The floors, covered with a debris of dust, sticks, bones, and cactus spines, were eagerly overhauled, in the dim light, for relics, in spite of the scorpions unearthed, and the pain caused by once in a while touching some of the cactus spines. Nothing but a few corn-cobs, however, was discovered, and, as it was anything but agreeable in the caves, no one

was desirous of pursuing the exploration to any great extent.

"Our next discovery was still farther down. We had just left the mouth of the Dirty Devil River, when one of the boys espied an object which caused an exclamation. We looked towards the left bank, and there, upon a promontory rising about two hundred feet above the river, stood a house—a genuine house right here in the wilderness, though seemingly without a roof; or, if it had one, it was flat. Certainly no one lived in this desert; none but an Indian would live here, and he would not go to the trouble of building a house. The conclusion that followed was, simply, *Shinomo!* A landing was instantly effected, and we started across a strip of level soil, intervening between the cliff and the river, in search of a point of ascent. Immediately beneath that part of the cliff upon which stood the castle, the ground was covered with the usual accumulation of pottery fragments, arrow-heads, and chips of chalcodony. One piece of pottery I secured was so artistically marked, and so finely finished, that it might have been a portion of a royal tea-set.

"To the left was a talus, affording an easy ascent, and, taking advantage of it, we stood beside the ruin—for ruin it was—of a house so symmetrical that it would have done justice to a more modern architect, supplied with improved instruments. Three walls, some fifteen feet in height, were still standing, and of these the corners were as true and sharp, and the walls themselves as straight, as plumb-line could make them. Some kind of mortar had been used, but it must have been merely mud-mortar, for now not a trace of it could be found.

"The point of the cliff upon which it was built was formed of level blocks of sandstone, and upon these, close to the base of the house, were cut a number of curious designs, while the large, isolated rocks close by were tattooed all over with pictures, highly praiseworthy for such humble 'artists of nature.' Under the verge of the cliff ran a narrow bench, over which the rocks projected, so as to form a perfect ceiling, ten feet or more above the rocky floor. This bench could be gained only at one or two points from above, and at but one from below. A series of walls had been built, dividing this natural hall into a number of different houses, or compartments, with windows and connecting doorways, while here and there were balconies, where the rocks above did not protrude far enough to form a roof. Many of the walls had fallen down, leaving the apartments light and airy; and

with ease we strolled along, viewing an almost continuous panorama of inexplicable drawings adorning the back-rock.

"What a rare gallery of art it was, this collection of pictures which had waited so long for admirers! And only now its visitors had come. Some of the designs were chiselled out, and others were executed in a strange style of coloring, which seemed a part of the rock itself.

"Our artist copied them all, and I have drawn some on this paper from memory, and some from notes. Serpents and lizards there were, and bodies with heads, and bodies without heads; strange circles, with zigzag lines running through them; arrows, crossed; queer-shaped individuals, with their hands clasped together; and fish, and mountain sheep, and I don't know what all.

"This place was almost as impressive as the ruins above; and it was with the greatest reluctance that we resumed our voyage, and watched the home of the artists till a bend in the river drew the curtain, and we turned our attention to the lookout for more. We saw the ruins of three or four houses on the right; though, as they did not appear very attractive, we did not land; but at evening, close to our camp, on some hills, were several ruins, rather indistinct. Within a few feet of the best-preserved one was a circular basin, resembling the sawdust ring of a circus, only it was but about twenty feet in diameter. This the colonel pronounced a ruined kiva; and for a while we dug with prodigious energy, attempting to strike the old, buried walls. Alas for our fond hopes of discovering rare relics! Darkness came upon us too soon; and in the morning, owing to the low state of our larder, we were obliged to pull out, and sail on. Each day now brought fresh signs of these ancient artists. Once some pottery of a rare cream-color was discovered. Again, in a side alcove, was found a store-cave, with a very small door, whose sides showed the impressions of the builders' fingers in the plaster, as though made no later than yesterday."

Next, the Captain gave us a description of a peculiar wall, supposed by the Mormons to be of Shinomo origin; but geologists had pronounced it nothing more than a dislocation of strata. He also told of various out-of-the-way places where he had found the carvings, much to his astonishment, and then proceeded with the following:—

"The vicinity of Mount Trumbull, although rough and volcanic, abounds with evidences of early habitation by the Shinomos. Boulders of basalt, as hard, almost, as iron, are

found covered with carved figures, and the tops of some of the *Unagharitchets*, or cinder-cones, abound in ruins and broken pottery.

"Over a lava bed, ragged as a nutmeg-grater, and which can only be traversed with the greatest care, trails have been built in all directions. By following these, it is easy, comparatively speaking, to walk over the lava; and you would at once notice the vast difference between the rocks in the trail and those outside. A bit taken from the main bed resembles a coarse sponge in texture, but is as hard as flint, and very angular; a piece from in the trail is as smooth as a cobble-stone. How many, many passing footsteps it must have taken, then, to accomplish all this! For look at an ordinary sidewalk, composed of moderately soft sandstone. Does it not take long years for the multitude of footsteps to make an impression? The steady flow of water will in time wash away the hardest rock; and just so did the tread of moccasoned feet grind down those fragmentary rocks to pebbles.

"The question naturally arising in your minds is. Why did they travel over such rugged ground? And it can only be answered by the supposition that their *towns* were built upon the lava bed, to offer the enemy a greater disadvantage.

"Near the terminus of one of these trails was a little hollow in the rocks, which became full at even a slight shower of rain; and close by this *water-pocket*, half buried beneath a mass of lava, was discovered a human skeleton. Between the mouldering ribs, an Indian water-basket, or jug, was decomposing; and the whole presented a ghastly sight in such an awful sepulchre. The teeth were yet well preserved, and I obtained one of them for a relic. It was a molar, and of a different shape from any I had ever seen before, and yellow with age. The skeleton could hardly be that of a Shinomo, for it does not seem possible that it would last so long, exposed to the snows of the mountains; and yet it may have been the last poor, wretched remnant of those who inhabited the lava bed, who prowled around among the dark rocks, evading his enemies successfully, until at last, perhaps, his watering-place was discovered. Then a vicious brute ensconces himself snugly behind a screening rock, and patiently waits his time. The moon breaks forth from a silvery prison, with a cheering brilliancy, as the poor Shinomo stoops to fill his exhausted jug. The twang of a bow-string breaks upon his ready ear; but it is too late for him to escape. The tearing arrow pierces him through and

through. With a yell of defiance he starts up, to fall quivering upon the cold rocks, as the moon, seemingly horrified, draws again its dark curtain. A pitiless smile plays about the mouth of the assassin, as he rolls over the corpse, and withdraws the arrow. Then, to finish his work, he detaches the mass of black hair, crashes several large rocks upon the body, and disappears in the direction of a distant fire.

"That is a picture of Indian warfare, whether the victim be Shinomo or Caucasian.

"The lava bed was estimated to be about three hundred years old. So the Shinomos who lived there must have passed from existence somewhere in the neighborhood of one hundred and fifty years ago, as no tradition of them can be obtained from any of the present Indians. They were exterminated by the advance-guard of the great Ute family, just as the Utes in their turn are giving way to the present generation."

Continuing, the Captain gave us a lengthy theory of the origin of the races of America, which I cannot repeat, but will give you his closing words.

"Thus, all through this south-western country, you find signs of civilization, prehistoric; and the farther south you journey, the more massive are the ruins of habitations, and the more perfect are the works of art, until you reach the ruins, so grand and majestic, in Central America; the remains of great cities, constructed, abandoned, and disintegrated long before the proud Aztec Montezuma ruled his vast empire, and long, even, before that empire existed.

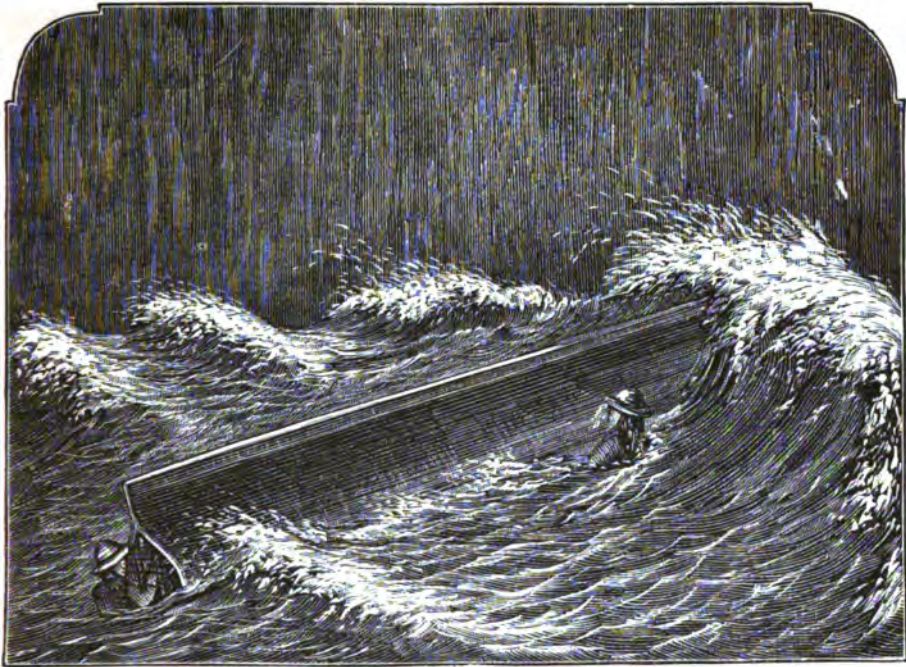
"And now, gentlemen, having told you about all I know of the Shinomos, the wise men, and Nature's rude artists, I will say no more, leaving you to ponder the subject to your hearts' content."

The long, dismal howl of a coyote rose through the silence of the valley, becoming faint in the distance as the Captain sat down.

"An appropriate 'amen,'" remarked the General.

Then a consultation was held to see who should deliver the next lecture, and, unaccountably, it again fell to the Captain. Reluctantly he agreed to entitle his lecture "The Unknown River, or Old Father Time's Masterpiece."

NOTE. A, in Indian words, generally has the Italian sound. Kiva is pronounced *kava*; Shinomo, *Shi-no-mo*; Moquis, *Mokees*; Navajo, *Navaho*; Apache, *A-patche*; Cohonini, *Co-ho-ne-ne*; Wicky-ups is probably contracted from *wicker-ups*.



THE STEERSMAN CLINGING TO A RING IN THE STERN. Page 130.

THE CAMP IN THE GULCH.

IV.—THE UNKNOWN RIVER, OR OLD FATHER TIME'S MASTERPIECE.

BY JUSTIN DALE.

GENTLE reader, the subject for the lecture this evening was not new to us. However, the Captain proposed to present it in a form as attractive as possible; and the topic would bear much fresh handling: in fact, we never were tired of re-discussing the wonderful river, and of hearing the Captain rehearse some of his thrilling experiences; therefore we prepared to listen to-night to a discourse of considerable interest on the unknown river, the Rio Colorado Grande of the Spaniards, and the Americans' Colorado River of the West, which so long in solitude had wrestled with the hard rocks obstructing its pathway to the bosom of old Ocean, cheered on by its own eternal thunder.

The interest, too, was heightened by our being so near to Marble Cañon, one of the deepest and grandest chasms of the whole collection. We had gazed from eminences, through the blue haze, at its narrow top, and often wondered how the interior looked; wondered if the same clear sunshine that bathed the rocks of the gulch ever penetrated to its

mystic depths, scarcely believing the Captain when he answered in the affirmative.

Quietly our lecturer began as follows:—

"Far away in the north, among the wild gulches of the Wind River Mountains, several rivers rise, and, swelled by additional streams, become irresistible torrents. One of these streams, the Snake River, plunges rapidly down, and settles in the channel of the great Columbia. Another, rising but a short distance away, is Green River. Its emerald waters tumble down in numerous rapids, through small cañons, foretelling, with an ominous murmur, the terrible struggle to take place below. Two or three hundred miles are thus passed, when a high barrier is found. Tearing through this, its fate is sealed. It begins almost at once its headlong race to the sea, hundreds of miles away, and six thousand feet below, and stops not until, mingled with other waters, it unites with the briny fluid of the Gulf of California.

"This is the Unknown River, and its course is marked by a deep gash on the surface of our globe. But through this channel so deep it has not always run so furiously. In the beginning—so long ago that no man can compute it—the foaming torrent was a broad, placid stream, meandering among the hillocks and flowing through great quiet lakes to—

wards an abrupt coast, where it poured off into the sea. Slowly the surging waters undermined the foundation-rock of the cascade, and the top was crushed in, or, rather, broken off, thus causing the cascade to take a step backward, and leaving an alcove, or bay, surrounded by high walls.

"The pent-up surge gnawed steadily at the foot of the fall, and again it gave way, taking a second step inland. And in this manner, similar to the retrograde movement of Niagara, the mighty fall steadily backed up into the plateau, and as steadily became shorter, for at each successive breaking back, the bottom of the gorge was filled up with the debris, making it a little higher than that farther down; consequently the water did not have quite so far to fall. The struggle continued in this way till the fall either disappeared in softer rock, or could make no plunge, the bottom having risen to the top.

"At the same time, however, erosion of the surrounding country was being carried on by heavy rainfalls following each other in rapid succession. Ridges and mountain ranges were formed, and the drainage of the surface was changed into many directions by the sudden emptying of the pools or lakes, as the river wore its deep gorge northward. Some of these ridges and mountains were at right angles with the course of the stream; and to an observer *then*, the cañon through them would have seemed to have been cut *after* the ranges were formed, causing great perplexity.

"By the time the river had ceased to have a vertical fall, the country was well diversified by high mountains and deep cañons, and the river itself was hemmed in by walls rising many thousand feet. The rain then was not so evenly distributed, for the higher portions condensed the clouds before they arrived over the lower; and the result was, that some parts had rains only at comparatively long intervals.

"The tributary streams by this time had assumed definite courses, and were attempting to gain the river level in the way that the river had tried to gain the level of the ocean, namely, by plunging over the abrupt walls in cascades.

"Their cañons soon resembled that of the river; though, owing to the unequal distribution of rain, some were at times dry, leaving the disintegration entirely to the frost and wind, which accomplished their work much slower than water.

"The surface of the country was, in this way, ground down to its present configuration.

We now have the river, at its head, about seven thousand feet above the sea level, with a descent rapid or gradual, according to the nature of the strata through which it flows. The walls are low, when compared with the original; and in the lateral cañons can be found specimens of the immense leaps which the water made to reach the river. For instance: suppose you were travelling beside a cañon. You come to an impassable branch. To avoid it, you *head it*; that is, you follow it up until you find the highest point to which the vertical plunge has receded, and then you can easily go around.

"A good illustration of the formation of cañons is found in a mud ravine. Take, for example, a level bottom, with a creek quietly wending its way downwards through shallows and pools. As you follow it along, your ear suddenly catches the sound of falling water, and in a few moments you are standing on the brink of a miniature Niagara. With a quick plunge the creek pours over into a perfect cañon, cut through the hard soil. You wonder at first why the creek should 'cañon' so suddenly at this particular spot, as the soil is evidently no different from the surrounding. But, while you stand and wonder, you hear a splash. Upon closer examination, you find that fragments of the edge, undermined by the surge below, are at intervals dropping off, and the cascade is receding towards the high ground. It will keep on receding until it reaches sandy ground, when the water will sweep through without a fall. You follow on, and find, after a short distance, that the cañon is growing wider, and in some places there is no wall at all.

"Three great causes combine to produce this change — water, frost, and wind. Frost and wind break off masses of the verge, which fall into the stream, and direct its course against the opposite bank. This it undermines, and the top, falling in, turns the tide back again, and *vice versa*. Consequently it is readily seen that the reason the gorge is represented still farther down only by a hollow, or valley, is because there is where Time has had the best chance, and has levelled the country down from its primitive condition, to make it habitable for man and beast.

"And so it is with the rivers of the world. Those now navigable, and surrounded by fertile valleys, have passed through the ordeal, while those like the Colorado of the West are far from being completed. The Lower Colorado is slowly transforming; but before it is perfect, erosion will have to gnaw dexterous-

ly at the Sierra Nevada, the Wasatch, and the Rocky Mountain ranges.

"As I have now hinted at the manner in which the great cañons were formed, I will now proceed to tell you something of the pioneers who descended them. The first party was conducted by a gentleman as a private venture. The second was a regular survey party, led by the same gentleman, under direction of the government. Their boats were launched at the railway crossing of Green River, and from there the three little craft, manned by ten men, sailed down the Unknown River into the heart of the mystery.

"For a while all was very fine, till the river cut through the ridge in the cañon of Flaming Gorge. Then the rapids began to appear, few and insignificant at first; but, upon entering Red River Cañon, their proportions increased, and work became lively. Flaming Gorge had been the gate-way to the depths that, it was said, no man could trace and come out alive. It was predicted that our boats would never float in Brown's Park, at the foot of Red River Cañon; but we passed successfully into the beautiful valley, and sailed on into the gates of Lodore, so majestic, so sublime!

"The dark walls had hardly closed around us before the music of turbulent water came to our anxious ears. Eight days' hard labor, and the fourteen miles, with their Disaster Falls, Triplet Falls, Bowlder Falls, Hell's Half Mile, and what not, were passed, and we were eight hundred feet nearer the sea level. Passing the mouth of Yampah River, we tumbled on through Whirlpool Cañon, Island Park, Split-Mountain Cañon, and the Uintah Valley.

"A fresh interest was added to the voyage by the discovery of the picture-writing on the rocks. Next we had the Cañon of Desolation, through which the river makes a troubled and rapid descent. Then through Gray Cañon to Castle Valley—a short break in the regularity of the walls, and the place where Captain Gunnison crossed the Green, in his famous trip through the West.

"Labyrinth and Still-water Cañons came in quick succession; and at the foot of the latter was the junction with the Grand River. For the first time our eyes rested on the Rio Colorado Grande, as it started on its way through Cataract Cañon. This cañon proved true to its name. Cataracts came thick and fast, and it was only with extreme difficulty that we could get over them. I can never forget one incident, probably on account of its weirdness.

"Rations were getting scarce, and navigation had to be carried on until very late. The time I speak of we came late to what appeared a very bad part of the cañon. The walls rose vertically from the water's edge to a great height, before they broke back a little, to go on up to three thousand feet. Our commander-in-chief reconnoitred a little before starting on. When we ran a small shoot, and prepared for the rest, the cañon was growing dusky, lending an impressive solemnity to the occasion. Louder the roar of water grew, and at a glance we saw the river divided upon a rocky island, and lashed to foam against the cliffs on each side.

"Keeping in the line of the dividing water, we ran aground on the head of the small island, and, leaping ashore, held our craft fast, until the two other boats could perform the same feat. They did it successfully, though the last one came very near going over unceremoniously.



Our port oars had to be hastily unshipped.

"So far it was all right. One at a time, then, the boats were manœuvred down on the right hand side, to a sort of middle stage to the rapid. Getting on board our boat, we cast off, and pulled with all our strength straight across the 'tail' of the rapid, to keep from being dashed against the left hand wall, for which all the current set with unswerving course.

"All was cleared safely, though our boat swept so close to the pointed rocks that our port oars had to be hastily unshipped. The other boats came through in as good a condition; and it was time. Darkness settled rapidly in the cañon, and the clouds above, which had been flaming with the sunset rays, died down to a sombre gray. Our boats drifted on down the narrow gorge, till we were aroused by a loud roar, that sounded ominous in the gloom. We ran in, and made a camp.

"The scene at the island, I believe, was as awe-inspiring as any I ever beheld. With the dying radiance of the sky, and the increasing darkness of the cañon, it seemed that the world was closing round us, an awful tomb, and one strained his eyes longingly to catch the last flickering ray of sunlight glancing across the dizzy brink above. But, to dispel our sadness, after a whirling rain-storm, that cheerful satellite, the moon, came sailing slowly and grandly through the broken clouds, up behind a forest of tall pinnacles, showering its dazzling rays upon the great, cold walls, and holding every man spell-bound till it soared above the towers, and stood sternly against the dark-blue sky.

"A day or two after, we ran up to the mouth of the Dirty Devil River. You smile, and think the title not very euphonious. I agree with you; but that is its name, and we must get used to it. Here began Mound Cañon. Its walls were sharp, but not averaging more than twelve hundred feet in height. The river flowed smoothly, and we sailed past the mouth of the Rio San Juan, with dry decks, into Monument Cañon, past the solitary Navajo Mountain, to El Vado de los Padres (The Crossing of the Fathers). This was so named from the fact that Escalante crossed the river at this point, with a band of priests, in 1776; and it is a somewhat remarkable ford. The walls are low, and in the autumn the water is shallow, — these being about as favorable conditions as you can find on the Colorado. Entering the river over the rounded bluff, Escalante had picked out a path diagonally over the shoals, to a small cañon on the other side, which afforded an exit. But it was a quarter of a mile or more above the point of entering, and in some places horses would be nearly carried off their feet by the current, and in others would have to swim a distance. So you can conclude that, although from that time until within a few years the Crossing of the Fathers, or 'Ute Ford,' has been the only practicable point of crossing, yet it was not child's play. Another crossing was found to be feasible at the mouth of the Pa Ria River, thirty miles farther down. Taking advantage of this, the Mormons have built a ferry boat there, as you know, and have blasted the outlet cañon at the 'crossing' full of rocks, so that bands of raiding Navajoes cannot cross.

"Opposite the mouth of the Pa Ria is the Echo Peak, which I cannot pass by without a word. It is twenty-four hundred feet above the river level, and gives a remarkable echo —

the derivation of its name. A pistol-shot will die away, and after an interval of twenty-four seconds will be heard crashing amongst cliffs, many miles away, like distant artillery fire." (The cliffs could not have been more than four and a half miles away, for sound only travels one thousand and ninety feet a second. Allowing twenty seconds for the shot to die away, would give us a total of forty-four seconds before the echo returned; or, the sound had travelled 47,960 feet; a little over nine miles. The reflecting surface must, then, be half this distance, or four and a half miles away. — J. D.)

"Besides the echo, from this peak can be obtained an entrancing view. Broken cliffs are on every hand, with high mountains in the background, while on the south, stretching away into the endless plateau, is Marble Cañon, its dark, zigzag course, with the lateral cañons, appearing like a writhing serpent. At your feet is the river, bounded by walls only twenty or thirty feet high, while in the distance nothing can be seen but the narrow crevice. The river has sunk into the bowels of the earth.

"At this point we abandoned one boat as unseaworthy; and it was not long before we sailed on into 'the Valley of the Shadow of Death,' I might almost say; for three of the only band who had before traversed it never again saw civilization. They did not lose their lives in the cañon, it is true, but still in close connection with it. It was in this way: The work had been exceedingly dangerous for a long time, when the river became smoother, and prospects were more hopeful. At this their hearts lightened. But the lightness was destined to be short-lived; for one day the harbinger of danger — granite — again came to the surface; and following close upon its appearance was a rapid, which, in the language of one of the party, 'was enough to balk any man.' They found that there was only one way to get over it, and that was to 'screw their courage to the sticking-point,' and boldly face the music. Two boats went over in safety. The crew of the third, consisting of three men, backed out, fearing something worse below; and, abandoning their boat and the others to their fate, they sought a point where they managed to gain the surface once more, and struck out for the nearest settlement. Evil eyes followed their footsteps. As they were quenching their thirst at a water-pocket, they were struck down by the missiles of ambushed savages.

"The party soon completed their voy-

age in safety, and returned to more favorable climes. Still they wondered how their old companions had fared; and it was only when their fate was told in the settlement by a friendly Indian that the matter was definitely settled.

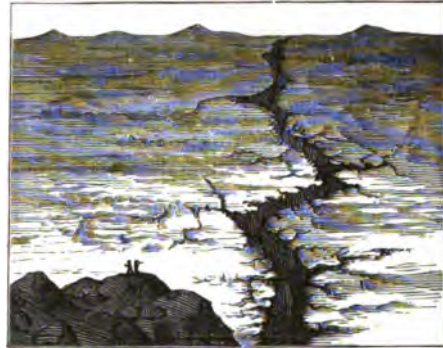
"Their only monument is in the Temple of Music, a dome-shaped alcove, near the mouth of the Rio San Juan, where, in the soft sandstone, they had carved their names. Upon this recording tablet we, too, inscribed our names, that, though we might be mangled in the seething river, or slaughtered in some mountain-gulch, we might have the consolation of leaving a mausoleum behind.

"Into the jaws of the chasm, growing deeper and deeper at every stroke, we sailed, listening for the first sound of angry waters. For a short distance the boats glided smoothly and swiftly on; the fantastically-shaped walls flitted by in a pleasing panorama. Ten miles had scarcely thus been left behind, when the river narrowed from four hundred to about three hundred feet, and plunged down the gorge in earnest. Following each other thick and fast came exhilarating runs and hard portages. All day long, as in the cañons above, we were drenched to the skin. Sometimes the boats would stand up on the huge waves composing the tail of a rapid, until they felt ready to topple over backwards, or would graze a ragged rock hiding beneath a mass of foam, so quickly that we only realized the danger when it was passed.

"A thousand feet of marble was soon run up, and, added to the rest, made the walls about three thousand five hundred feet high. This marble was of all colors; not variegated, but you could find ledges of almost any color you wished. In some places it was eroded into infinite varieties of castles, fortresses, and everything else you pleased to imagine. But the whole *surface* was generally turned to a dreary red by the iron disintegrating from the red sandstones above; so that, although marble, its resemblance to quarried marble was slight. After a short distance, other rocks, coming up from below, elevated it above our heads; and at the mouth of the Rio Colorado Chiquito, the total height of the walls was about four thousand feet.

"At the mouth of the Little Colorado, a peculiar conglomerate was observed covering portions of the cañon wall to about five hundred feet above the river. It was then unaccountable; but subsequently we discovered that it had been formed in this way: Farther down the river an overflow of lava from a vol-

cano near by had occurred, damming up the cañon as many hundred feet as the height of the conglomerate on projections of the walls, or five hundred feet plus the amount of descent between the mouth of the Little Colorado and the point of obstruction. The water then rose to the height of the dam; and it was many long ages before the barrier was cut away, and the river again flowed at its old level. During this time a deposit of sediment was taking place in the quiet pond above the dam; and the result was the stratum of conglomerate, in its turn nearly eroded, — which had been a problem.



The river has sunk into the bowels of the earth.

"Consider a moment how long the river must have been in cutting away the hundreds of feet of lava; then compare that small piece of work with the gigantic gorges of the Colorado, so many miles long, and see if you can estimate how long the earth has been in approaching its present state from, probably, a mere fragment of some other world.

"It makes your head swim to dare to think of such a lapse of time; and yet you have lived twenty, thirty, or forty years, intending to live as many more equally long!

"In 1540 an expedition was sent by Spain into what is now New Mexico and Arizona. It was under the command of Vasques de Coronado, who sent a detachment, in charge of an officer named Cardinas, northward; and it was the latter who, after a march of some twenty days from the Moquis towns, reached the margin of a gorge, the bottom of which seemed to him more than three leagues below.

"*Sebastian* Coronado, I think, was one of Escalante's officers, and determined the junction of the Colorado and Gilas, or some other stream. In fact, there are so many Coronados and Diazes, and similar names, that one admires the ingenuity of a Humboldt, Irving,

or Prescott, in keeping them within their own sphere."

We next listened to an account of several days' work, rife with danger and excitement; but I must omit it. One day's experience, which he told concisely, I will repeat. He said, —

"Another day, which stands prominently upon the pages of my diary, is when the fierce river made an almost successful attempt to drag down our gallant leader, and George, the life and song of our party. It happened in this wise: We had been having splendid luck, and dashed unharmed over nearly everything that came in our path, having innumerable narrow escapes; but, so long as we came out 'all right,' a miss was considered fully equal to a mile, and, besides, afforded conversation for the camp. 'Hard on the right!' 'Hard on the left!' 'Pull out strong!' 'Pull, pull for your lives, boys!' 'Pull like —, boys, or we're gone!' rang in our ears, mingled with the tumultuous roar of water, all day long.

"Sharply, one evening, we came to, upon a mass of granitic bowlders, where was room for a camp. Just below was a small rapid, and a half mile farther down was as ugly a looking hole as I had ever seen. The decision was to run it in the morning, an examination having placed it in a favorable light. Morning, therefore, found the two boats with hatches battened down securely, and everything made fast that would go by the board in case of a capsizing.

"Our boat, containing the colonel, was to go first. Manning the oars, we cast off, and swung out into the stream. The regular dipping of the oars accelerated the speed of the boat, and like an arrow she shot through the small rapid, allowing the colonel to catch a better view of the plunge. We would then have landed, and again inspected it; but it was too late. No human power could stem that tide; and, heading her on, we backed water, that we might fly into the boiling mass of surges, whirlpools, and waves with the least possible speed.

"Silently, smoothly we swept down the declivity, and darted into the chaos. Wave after wave curled over me as I handled the bow oars; wave after wave rolled from stem to stern of our little bark, filling the standing-rooms even with the gunwale.

"'Bale just as fast as you can, boys!' the colonel said, calmly but emphatically; and we left the oars, and plied the kettles with an ardor cooled only by each successive wave

undoing our work, till one, more powerful than the rest, struck us a blow on the port bow, and over we rolled, quick as thought. Had the colonel not had on his life-preserver, it would have been all over with him. Even as it was, he was pitched some distance from the boat, together with the stroke oarsman, George, and they were caught in a whirlpool, and drawn rapidly downward. I made a clutch for something, as the muddy water closed over my head; and, luckily for me, my hand clasped a spare oar that was fastened to the gunwale, by the aid of which I brought my head once again into the life-giving medium. My hat, a soft felt, had been pulled well over my ears, and still held its ground, clasping my face so tight that I could not see, and could hardly breathe. After turning the brim up so that I could look around, I saw nothing of my companions. A second look, however, showed me the steersman clinging to a ring in the stern. We then, for the time being, were all right; but the whirlpool pretty near finished our friends. I had almost given them up for lost, when a commotion in the water beside me attracted my attention. Instantly George and the colonel popped up as though shot from a bow. Had they come up twenty feet from the boat, they would have been swept on down the wild current, and dashed to pieces against the rocks.

"Righting our craft, we one at a time climbed in. Then we laid to the work of reaching shore before another rapid could claim a visit. Had this latter emergency occurred, we would, most likely, have had to say farewell to the sunlight. A boat full of water, all but three compartments, and with a hundred feet of hawser trailing in the water, is no easy thing to handle with any degree of rapidity. Whatever we did must be done instantly. We pulled like heroes. Caught by an eddy when near the wall, we were carried up stream as fast as we had been going down; and there was imminent danger of again being thrown into the main current. We succeeded, by steady labor, in running up to the granite; and, hauling in a few feet of the hawser, I leaped on a convenient ledge, and made fast to a small knob of granite, just as the consort ran alongside, minus a pair of oars, full of water, and with a rowlock torn off. Owing to her lightness and superior sea-going qualities, she had weathered the gale, and sustained only slight damages.

"When order was once more restored, we proceeded, with the usual number of hair-breadth escapes, till near evening, when, in

attempting to land at the head of a long, dangerous rapid, a lurch of the boat made me miss my calculation, and, instead of jumping on a large rock, I sank beneath the current, while the boat and its occupants rushed on to its fate, towing me by the length of line I had taken out, and which I clung to, dragging myself to the surface.

"It was not the desire of the crew to thus involuntarily run a bad rapid stern-first; consequently, as the boat drifted past a projecting rock, the colonel leaped out, and tried to catch the line. He failed. The steersman frantically followed the example of our leader. Springing high in air, he came down with a splash upon a bowlder just protruding above the surface, and clutched it with desperate energy.

"How he got to the shore I do not know. I was interested elsewhere. I thought I was left to battle with the rapid alone, and as the water was no place to do it in,—to swim ashore would have been impossible,—I went hand over hand to the boat, and tumbled into the bow standing-room. Surprised and pleased, I found George had remained to help me out of my dilemma, and we prepared to take the rapid in the most advantageous manner. Close to the final plunge, in the middle of the stream, was a mass of granite as big as a house. Against this the water surged, and then recoiled. The swell thus caused gave us an impetus towards the left hand wall; and, laying all our strength on the oars, we shot across, and lodged against a friendly projection, while, speedily, I jumped on a ledge, and had her fast to the rocks. Safe! And happy we were, you can believe, as we cast a glance over the tumbling waters to the gloomy bend below, and then above, to see what had become of the rest.

"A point had cut off their view, and the colonel rapidly climbed up the cliff, to watch for the end. To his great joy, he saw us safe, and ordered the other boat to be let down by line, which was accomplished with extreme difficulty.

"But one fine day all these things came to an end, as my lecture now has done. We bade a farewell forever to the wild Coloradd; and that is how I happen to be here to-night, by the fire of our snug camp in the gulch, telling you why my bones are not bleaching on the banks of the Unknown River."

We dispersed to our humble shelter, for it was much later than usual, and all were ready to go to sleep, and "no questions asked." But, for the benefit of the inquisitive, I will

add that our next lecture was to be delivered by the General, on "Some Noble Red Men."

NOTE. Rio is pronounced *ree*; San Juan, *San Hooahn*; Chiquito, *tcha-ke-to*; Sierra, *Sea-air-rah*; Escalante, *Es-ka-lan-tay*. Chiquito means *very little*.





SOME NOBLE RED MEN. Page 137.

THE CAMP IN THE GULCH.

V.—SOME NOBLE RED MEN.

BY JUSTIN DALE.

"THE native American, as long as my memory serves me, has been the world's ideal of cruelty."

The General stopped, and darted his keen blue eyes at us the more fully to impress his sentence. He stooped and stirred up the fire before proceeding, and one unacquainted with him would have thought that he had entirely forgotten himself in some vision of the past.

"But," he went on, "was he by nature cruel, or did contamination with cruelty make him so? We all now unite in sneering at his wretchedness, at 'the Noble Red Man,' as he is swept away by civilization's irresistible tide. We all unite in condemning his fruitless attempt to hold the home of his childhood against the invader; but we do not stop to reason that we would, perhaps, act precisely the same, were we similarly situated.

"You say we would not be guilty of such acts of cruelty as the savage has been known to commit. I agree with you; but let us at the same time think a moment. Recall the gentle nature of the savages met by the Span-

iards about the year 1500. Do you not remember the words of the chief, who, before being *burned at the stake* for resisting the authority of the Spanish crown, said, when asked, that he did not want to become a Christian and go to heaven, where he was told the white men went, for he would not go where he must again submit to such cruelty? It seems to me that European humanity must have been below par in those days; and when the words of this primitive martyr, together with other tales, were related to the young Indian, he must have started up with all his impetuosity, and sworn eternal vengeance on all white men.

"In consequence, the pioneer, returning from the day's chase, found his cabin a heap of smouldering ruins, and his family either murdered or carried away to a fate ten thousand fold more horrible than simple murder. Before the miserable wreck of all that was dear to him, then, the hunter on his knees swore vengeance on the Indian. Forth he went, and every Indian crossing his path was stricken by the unerring bullet, and another notch was added to the record on the stock of his gun.

"These notches, most likely, recorded the deaths of red men who had nothing whatever

to do with the rupture of his happiness, and who may have desired peace as much as he himself did.

"It mattered not to the avenger. He thirsted for the blood of Indians, and took it. The Indian, in return, thirsted for the blood of white men, and as unjustly took it.

"It is so now. Let an Indian commit a depredation, and the white men wreak their vengeance on all Indians, without discrimination.

"Suppose an opposite case. An Indian has been killed by a white man. You are riding along alone, and for revenge an Indian shoots you in the back, although, you had not the slightest idea that any one had been killing red-skins. Your murder would enrage your friends, and in their turn they would murder every Indian they could get at. When a white man shoots an Indian, it's all right with the rest of the whites; but should an Indian shoot a white, he is killed for it. The same rule applies to the other side. Therefore, if a man now shows humanity to a 'treacherous' red-skin, the latter generally concludes at once that he is afraid of him, or else is a fool. In the first case he would take advantage of the poor white; in the second he would let him alone.

"I was once getting a drink from a tank of water, when an Indian leisurely sauntered up and asked for a drink. To satisfy my curiosity, I dipped up a cupful, and politely handed it him. He drained it, and then—although he stood as close to the tank as I—he held the cup towards me, and exclaimed, 'More.' I was tempted to swear, and use a little shoe leather; but, as I was partially to blame, I took the cup, and walked off.

"We can conclude, then, that once the red man was noble,—which was very long ago,—and that now he will stand the closest watching one can give him.

"Some of these noble red men, of whom I shall say a few words,—omitting, however, to state wherein they are noble,—are the Navajoes and the Pi Utes—almost the highest and the lowest grades of living Indian nations.

"The first class—the Navajoes—are a part of the great *Althabascan* family, to which belong also the Apaches, Chippewas, and others. For intelligence, they rank among the first of aborigines; and, as a natural result, are tolerably well off in wordly goods: I mean horses, &c. From the Moquis they have learned the art of weaving, and produce more and finer blankets than their teachers. It is

said that the reason their blankets are better is, that among the Navajoes the men do the weaving, while with the Moquis it is the women. How much merit this explanation has, you can judge for yourselves. Besides the woollen goods, their property consists of large flocks of sheep, herds of horses, and various other animals.

"The Navajo bearing is quite dignified, and their character is freer and more frank than that of most Indians. Their imitative spirit leads them to adopt many customs not original. They work in iron to a certain extent; and I have seen a bridle-bit made by one of the rude blacksmiths which exhibited considerable skill.

"At present the whole tribe is at peace, though they have been so but a few years. They will smuggle off a horse or sheep once in a while; but, taken all in all, they behave themselves very properly. When in their own domains, they are said to be extremely hospitable, often killing a sheep from their flocks to supply their guests with proper food. In return, they expect to receive good treatment when they make a pilgrimage to a foreign land.

"They understand little or no English, but know considerable Spanish; hence one who understands the latter language can generally make himself understood.

"The Navajo is rather of a humorous nature, and at proper times will accept a joke with the best of grace. Frequently you can have as jolly a time with a band just met, as with old acquaintances of a lighter color. They will sing for you, dance for you, or laugh at you; anything to make an evening merry. Their singing is curious, as is all Indian singing. When heard for the first time, it sounds so funny that you would laugh immoderately; but as you hear more there appears a kind of doleful significance, which claims attention. I never was able to ascertain whether their songs had any meaning or not; but it is most probable that they have, if they are like other Indians.

"To one who does not understand the language, the songs are a mere a-he—a-he—a-he—a-ha—a-ha—a-ho—a-ho—a-ho—a-ho—a-hi—a-hi, and so forth. While uttering this gibberish, some of the singers will close their eyes and draw their countenances into shapes so forlorn in expression that they would make exquisite head-stones in a graveyard.

"Their language itself is pleasant and musical, when spoken fluently. It abounds in a sound 'kta,' which gives to words a strange

force, and makes them extremely hard for an English tongue to master. Examples are, '*Tsin-ktla-eh*,' a match; '*Ktle-be-zas-ta*,' '*Ktle-be-gail*,' names for bridle and saddle; '*Pal-ktlad-die*,' a blanket.

"These Indians are usually well-built and muscular, with brilliant eyes and pearly teeth, black mustaches, that form on each side an accurate right angle, and long black hair kept glossy by frequent washing with soap-root — the root of a species of *yucca*. When I remark that anything about an Indian is neat or clean, I mean that it is so for an Indian. Always remember that every Indian is more or less filthy; that is to say, none are clean.

"We invited a party of seven or eight dignitaries to camp near us once, that we might have an opportunity of learning their habits, language, and natures better. Our camp was beside a little shallow creek, and the Navajoes camped close by on the other side. We furnished them with wood from our pile, and gave them some rations, in order that they might get into a mood for song and pantomimic conversation.



"Wicky-up."

"Until after we had disposed of our own supper, we left them to themselves. But as soon as it was fairly dark, we went over, and it was only a short time before we had them singing to their full capacity. They did not stop with one or two songs, but kept it up until for once we were abundantly satisfied. At some parts they laughed as though they would burst, and, for aught we could tell, might have been enjoying themselves at our expense; but we cared not, and appreciated their hilarity as much as themselves. Finally, they requested us to sing; and of course we could not refuse, after they had given us such an admirable concert.

"That sweetest of all songs was our first selection, for it was so entirely different from the broken howlings of the Indians. The beautiful words of 'Home, sweet Home,' rose sweetly on the night air, charming even ourselves, but delighting the red men.

"Ash-tish-cal, the principal chief, was wholly absorbed. He leaned forward with a vague, lost air, while his sharp eyes perceptibly softened, as the gentle strains fell soothingly on his ear.

"As the last notes died away, they exclaimed, with great pleasure, '*Wehuo, wehuo, wehuo-ha* (good, good, good), and Ash-tish-cal stared abstractedly into the bed of coals. Was he dreaming of a home — sweet home — recalled to his heart by the harmony of the song? Not improbable, for, 'be it ever so humble, there's no place like home.'

"We sang them several more songs: '*Cham-pagne Charley*,' '*Beautiful Isle of the Sea*,' '*Lone Starry Hours*,' and others, all of which our friends enjoyed, to all outward appearances.

"To enliven the assemblage, a dance was next proposed. Not a '*Lancers*,' or a '*Redowa*,' or a '*German*,' but a genuine *American* 'walk around,' such as one does not get a chance to participate in every day. Around the fire a mixed circle of Navajoes and Americans was formed, and when all was ready, the Navajoes struck up their music. To this tune we circled round and round, with the indescribable Indian step, so slow and yet so double-jointed, until we became dizzy, when we turned and unwound the other way. This was kept up until we concluded we had enough of it. Occasionally some one would stumble over a root or something, and narrowly escape falling into the fire, amusing the Indians hugely.

"When we had again seated ourselves, the subject of Pi Utes came up. With a laugh the Navajoes exclaimed, '*Pi Utes no wehuo*,' and at the same time a bright idea seemed to possess a short, wiry fellow, who jumped up and stepped away a rod or two behind some tall *skunk* bushes. Another, whose name, translated, signified 'the Bear,' smiled as though he knew what was coming, and the smile passed to the lips of the others.

"The Indian soon reappeared. He had thrown off all his clothing but his short breeches, and these were rolled up as far as practicable. His hair was dishevelled, his countenance was strained into a perfect picture of misery, and his advance was with a slow, sneaking gait, precisely the opposite of

his original firm, upright bearing. Evidently he was going to present himself as a comedian. He crouched close to the fire, exactly as the Pi Utes do, and spread his hands stiffly over it, shivering continually. Then, drawing himself up into smaller dimensions, he revolved his hand about his face in the vicinity of his nose, and produced a prolonged snuffle, very much as a boot-black would do, if he had lost his cambric. Keeping his elbows close against his sides, he shiveringly extended his hand, and exclaimed, in a whining tone, '*Tobac, ash-an-ty.*' '*Biscuit, ash-an-ty,*' suddenly withdrawing it, with indications of great fear. This representation of Pi Ute character was perfect; and while we all laughed at the Indian's cleverness, he slipped away to his dressing-room again.

"Hardly had we fairly recovered from our laughter, when the mimic came out again, dressed in his loose shirt, his flowing cotton breeches, reaching to the knee, and his moccasins. As he reached us, he said, '*Merica-so,*' and stopped close to the fire. He held his outspread hands over it a moment, then rubbed them together, as he would do in washing, and turned his head away in disgust from imaginary smoke. Next, turning his back to the fire, he raised one foot a while towards the heat, then the other. Turning round, he again held out his hands, and drew closer to the fire. His back soon getting cold, he had to present that to the heat again, allowing his front half to cool a while. And thus he turned round and round, till we were all convulsed at his accurate imitation of the way a white man acts when by a camp-fire on a very cold night. He went through the same operation to represent the Mormons, and again retired.

"We began to consider it a 'big show,' and anxiously waited for the actor to appear in a new character. He was somewhat longer than usual; but when he came, he was dressed in complete Navajo costume — finely-stitched red moccasins, with turned-up raw-hide soles, and brass buttons; red buckskin leggings, with scalloped edges, fastened just below the knee by long scarlet garters, tipped with fringe; the cotton breeches; red sash; cotton shirt, hanging loose, like a coat, reaching to his waist; the heavy, striped blanket folded about his shoulders; the turban, of gayly-colored cloth; and the long bow, with the fancy fur quiver full of arrows, hanging at his back. He walked to the fire with a graceful dignity, and stood before it, motionless, remarking, with a quiet smile, —

"'Navajo!'

"This, then, was the way the noble Navajo conducted himself in camp. Surely he threw no discredit on his race; for if all appeared as he did that night by the fire, we might truthfully speak of them as 'some noble red men.'

"His show was not done yet. As soon as he had exhibited his finery sufficiently, he threw off the bow and blanket, and picked up one of their peculiar riding-whips. The nearest thing I can liken these whips to is a 'cat-o'-nine-tails' with only *two* tails. Perhaps, in your younger days, you may have had the misfortune to encounter one of these animals. The Navajo whip would be even more ferocious in a hand-to-hand fight. Saying 'Comanche,' and 'Navajo,' our mimic went through a series of motions representing fighting. He showed the result by placing himself astride an imaginary horse, in the position of rapid riding, and, glancing behind, with a countenance full of fear, he laid the whip heavily on his steed's quarters. 'Comanche, Comanche!' he shouted, meaning that the Comanche had turned tail, and was riding away, to live and bravely fight another day. In the same way he showed that in fighting, with the Utes, — not Pi Utes, — it was they who were victorious at times, and at others it was the Utes. The Apaches were illustrated similarly; and then he donned his blanket again, and seated himself beside his red brothers. His performance had far exceeded our expectations, for, though we had seen many Navajoes, never before had we found one whose dramatic ability was so powerful. To an enterprising showman he would be worth an immense fortune.

"Now it was growing late, and the darkening countenances of the Indians plainly said, 'Good night.' Therefore we took the hint, and retired to our own quarters. The next day they took their departure, and we shook hands with the lively mimic regretfully.

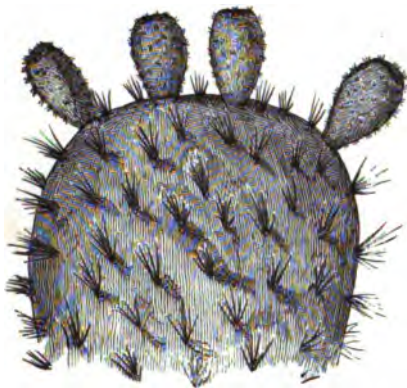
"When Navajoes travel, some go on foot, and some on horses. The horses carry rolls of blankets, which are traded for horses. And rarely does the pedestrian make the return trip on foot. If he cannot trade for a horse, he sometimes steals one; but these cases are not frequent.

"When Pi Utes and Navajoes get together, they are as courteous to each other as so many white hypocrites would be; but, nevertheless, you can easily arrive at the Navajo opinion of the Pi Utes, when you consider the mimic's representation."

Here the General related several anecdotes

of the Pi Utes and Navajoes, which I shall leave to omit, recording the following instead:—

"The Pi Utes," he said, "represent, as you are aware, almost the very lowest grade of the native American; and hence we are not surprised that they frighten themselves when they undertake any piece of extraordinary daring. Probably it is this very trait which has caused them to be of so little trouble to the whites. They have offered little resistance to the 'course of empire;' and whenever they resent an injury, they do it with absolute safety to themselves. Still, they have watched the white man's fast-accumulating power closely, but usually content themselves with accepting the more rapidly accumulating refuse victuals.



Cactus Apple.

"Several times they have attempted resistance, but have each time failed. Whenever I reflect on the approaching fate of the whole red nation, the words of a chief—who was discussing the advance of civilization, the utilization of their lands, and the destruction of their game, with an American—ring in my ears. He exclaimed, sadly shaking his head, and with solemn accent, '*Ah-kan'ega, ah-kan'ega, nueny shumi!*' ('Why, why, I think!') And may we not also exclaim, 'why?' What a deep, deep mystery is in that one word! This chief sorrowfully admitted that the white man might have the best right to the country, as they made it useful and productive; but still he wondered 'why.'

"The Pi Ute tribe is not all in one band, but is divided into several parties, each of which is ruled by a '*neav*,' or captain. These subdivisions each have a certain section of country, which they claim as their own, and other Indians never trespass, except on a visit, or in war. The whole region inhabited by

the Pi Utes is sterile and rocky. Their food consists principally of wild rabbits, which are astonishingly numerous in the sage brush, and varieties of *grass seed*. How you laugh at the idea of living on grass seed! but I tell you an energetic Indian will get fat on it, and would stay so if he could have a continual harvest. Could you see a bushel or two ready for grinding, you could not resist the temptation of tasting a handful or so; and you would find it no mean food, either.

"Of the different varieties of these seeds, those called '*Ak*,' and '*Pash*,' are found most abundant. *Pash* is a very fine seed, hard to collect, while *ak* is much coarser, and, I might say, is their *main stay*. The Santa Clara Indians cultivate large fields of *ak*, which supply them with a proportionate amount of food. In collecting the grass seed crops,—which, of course, is done by the women,—a large conical basket, of their own manufacture, is taken, and held in the left hand before the feathery tops of the grass. Then, with the right hand, the tops are struck by a kind of small cradle, and the fine seed drops into the basket. In this way, by going from cluster to cluster of the grass, the basket is finally filled, and the old woman trips away to the wick-ups, with her load held on her back by a thong around a strange conical or acorn-shaped hat which she wears, well satisfied with her work.

"I forgot to speak of the rabbits. Without these the Pi Utes would be almost destitute, for sometimes their *ak* and *pash* fail; but the rabbits never do. Usually they hunt these animals with their bows or their guns; but at intervals a whole band will proceed to a spot known to contain a large number, where they will stretch a fine net—made from the bark of a species of milk-weed, for the purpose—around the sage brush, in the form of a semi-circle, whose radius is three hundred feet or more. The rabbits are then drummed up and headed into this net, where they are caught in the meshes until the savages can kill them.

"The skins of the rabbits they twist into long ropes. These ropes are then sewed together in the form of a robe, or cloak; and often some poor wretches will have no other covering. The robes, though, are warm, and are not to be hooted at by any one.

"The '*mescal*' of the Mexicans is also a favorite food of the Pi Utes, who cook it, or, more correctly, bake it, in large pits, which are first heated by a fire, then the '*yant*' put in, covered with stones, and a fire built on the top. This *mescal*, or *yant*, is a variety of yuc-

ca, with broad, bayonet-like leaves, fringed on each side with small, crooked spines, or hooks. The plant resembles the top of a pineapple, and from the centre of the cluster of leaves a slender stalk shoots up, similar to young asparagus, attaining a great height, — the tallest I ever saw was about twenty feet, — hard and fibrous. When this shoot first sprouts from the plant, the 'head' of yant — the *core* of the plant — is cut out, and subjected to the baking, which makes it tender, and sweet as honey. The Indians take it into the settlements, sometimes, and easily trade it for flour or old bread.

"After yant the Pi Utes also gather for food the Indian fig, or 'cactus apple,' the 'oose' apple, and the nut of the piñon pine.

"All varieties of cacti grow very rankly in Arizona. The one which bears the largest and best fruit is a great, sprawling plant, covered with the most detestable spines conceivable. Its branches are composed of large, flat ovals, alternately at right angles with each other. Fields of these are as formidable as an army of bayonets; and one has to follow up some ravine or watercourse to get through them. Head a horse for a contemptibly small bush, and when he arrives at it, he will jump high enough to clear a church spire. As an illustration of the top oval of one of these vegetable tarantulas, hold up your hand, and spread it to its full extent.

"The large crimson apples, shaped like an egg with the tip of the broad end cut off, grow around the edge of the top oval, precisely as your fingers stick up from the main part of your outspread hand. They appear delicious, and so they are; but the fuzzy spines which cluster over them will torment you terribly, if you are not exceedingly delicate in your movements. The Pi Ute takes a bunch of fine grass, and gently dusts off all these spines before he plucks the fruit. He collects a large quantity, which he takes to his camp, where the juice is pressed out, and collected in wicker jugs. The pulp that remains is rolled up compactly, and put away for dessert, while the juice ferments, and forms a kind of wine, upon which they very often get intoxicated.

"The 'oose apple' grows abundantly, in large clusters, on another species of yucca, and looks temptingly luscious in August, when they ripen, and turn to a rich golden color. They are long in shape, — a little like a cucumber, — and only the outside is fit to eat. You taste them, and find them to be so very sweet that they nauseate you, making you wonder how anybody can manage to eat them;

notwithstanding, some people, who get used to them, think they are better than any other fruit.

"Piñon pine nuts grow in cones, examples of which you find hanging to the trees around here; so I will say nothing more about them.

"With a few wildcats, birds, and squirrels, and rats, the things I have enumerated constitute the food of the Pi Ute division of some noble red men."

Here I again make a skip to where the General begins the description of a Pi Ute dance.

"Round a cedar tree, stripped of all its foliage but a tuft at the top, the Indians were circling, in that sidling double-shuffle so peculiar, accompanied by their monotonous singing, sounding all alike to a stranger, but every song having a definite set of words.

"In some of the wicky-ups, before flaring fires, sat men and women dressed in their gayest attire, and with their faces hideously painted in yellow, red, and black, who were laughing and chatting as merrily as happy children on Christmas morning. All was gayety and hullabaloo. We distributed presents of tobacco and vermilion, heightening their happiness considerably. The '*poet*' announced new songs, and they howled away at them in their broken-jawed manner, keeping time with great accuracy, in the circular toggle-jointed quickstep, round the dismantled cedar.

"Some of my companions elbowed their way into the circle, and hobbled around, for the novelty of the thing; but the rest of us didn't relish such close proximity to them. When asked why we did not also participate, we said we did not like dancing — it was against our principles.

"I will sing you two or three of their songs. They are always short, but are repeated over and over again, with numberless variations.

'Ca shakum pooki,
Ca shakum te ki,
Ca shakum pooki,
Ca shakum te ki,'

and so forth. Another.

'Monterei ma, Moquonteki ma,
Umpa shu, shu-ra-ga-va,
Umpa shu, shu-ra-ga-va,
Umpaga-va, shu-ra-ga-va,
Monterei ma, Moquonteki ma,'

and so forth. 'Kamuss,' another.

'Ta su wont toe gump pi ava,
Toe gunt te lats,
Ta su wont toe gump pi ava,
Toe gunt te lats.'

And, lastly, one which I consider a really me-

ludicrous composition. Beginning low, the song gradually rises and falls, thusly:—

'Yah, yah, queen-io, queen-io, queen-io,
Queen-io, queen-io, yah, yah, queen-io,
Queen-am pooney, queen-io, queen-am pooney,
Queen-io, yah, yah, queen-io.'

and so forth.

"Now I will translate. The first song means that you must catch a rabbit before you eat him, or, 'No rabbit kill, no rabbit eat.' The second is of obscure meaning. It is something about a long talk, and boring a hole in a cliff; so it is safe to conclude that it means that a long talk is a great bore. The third is,—

'When the morning is in the sky,
Then the unfriendly Iats—'

Iats is the Ute name for the Mojaves, and means 'beautiful men.' The song relates the legend of the wars with the Iats, who pounced upon them at break of day. The fourth example advises you to examine a stranger's track well before you trust him, and is well represented by the proverb, 'Before you make a friend, eat a peck of salt with him.' Another song told about how the great mountain was sick and trembled, meaning the eruption of Mt. San Francisco.

"Still another sings, 'During the storm the waters pour down the mountain gulches in feathery torrents;' and so forth, and so on, many of the rude words expressing a world of poetry."

We next listened to more tales of interest in regard to the noble red men—how the ghosts of old women, in the forms of "Woonupitz," danced around in the darkness about the red men's camps; how they sang at intervals, to break the charm of this "Woonupitz;" how "Tavwanaraganump" performed great miracles with his terrible fire-ball wielded in his left hand, and a host of other things, "too numerous to mention."

The General concluded with an apology for not making his lecture better; but we assured him that he deserved a gold medal, and should have one—provided we could find the gold.

"Well," he said, with that peculiar sparkle of his bright eyes, as he took a fresh "chaw" of the vile weed, "I resign this rostrum, without animosity, to my illustrious successor."

The remnant of the autumn days glided by, pleasantly interspersed, for variety's sake, by our alternating lectures, until word came over the mountain for us to change our base; and next month you shall hear about "Last Days—Farewell—Old Friends."



THE HUNTERS' CAMP.



"HELLO, BOYS!" Page 142.

THE CAMP IN THE GULCH.

VI.—LAST DAYS. FAREWELL. OLD FRIENDS.

BY JUSTIN DALE.

DAYS in the gulch passed pleasantly by. Evenings were devoted, as I have shown, to a system of lectures, organized both for pleasure and profit. Still there was a longing to cross the mountain, and join our old friends once more; and as the autumn days drew to a close, this longing grew more intense. The interval of idleness had been refreshing, but now was getting tiresome. The days were filled with perpetual sunshine. It was monotonous; and we thought that after crossing the great plateau, we might find a storm, — a blustering storm, — for variety.

It came to pass that we did not have to wait till we could get on the western slope of the kibab for a storm. One day, at evening, the sun had to push his way behind the mountain through a mass of dull gray clouds, which cut off his "good-night" rays much earlier than usual. They crept slowly over the sky, and when in the zenith, feathery flakes fluttered into the gulch, and the valley was hidden from our sight by the curtain of "beautiful snow."

When we are comfortably sheltered, what a charm there is in storm, and especially in a snow-storm which steals upon us so softly, so gently, and, seemingly, so harmlessly. Though one may be shivering with cold, if he observe the wavering flakes, of such delicate construction, he must exclaim, "Beautiful snow!" If not of a poetical turn of mind, though, he will fail to be interested in a snow-storm, or any other, unless, as I said first, he is comfortably sheltered. Seated in a cosy parlor, perhaps, reading the story of some traveller's wandering, and ever and anon glancing out of the window to admire the large flakes as they pile up in the street and on the roofs of the houses. At such times, as he reads exciting events, he thinks how nice it would be braving this storm, or having this or that narrow escape from destruction; or what a great thing it would be to have a skirmish with the Indians. It is astonishing how quick the singing bullet or the whizzing arrow takes the romantic starch out of all these ideas, and leaves them to stand supported only by the bare facts — anything but pleasant.

Thinking over the Captain's lecture on the Unknown River, you imagine it to have been delightful to sail along between the grand old walls, or to enjoy the excitement of running a rapid; but once become initiated in these

scenes, and you would quickly wish yourself back again.

When you read Robinson Crusoe, did you not think he had an enviously "splendid" time all alone on his desert isle? Or have you not often wished yourself a member of the "Swiss Family Robinson," to roam freely over the tropical Eden? The fault is, that in considering these subjects, we magnify the pleasures and diminish the dangers and discomforts, till all appears in the same light—a light of overdrawn imagination.

From these words my readers draw this conclusion: "*There is no place like home*;" and if you are so fortunate as to have a home, my advice is, stay there and be happy, instead of wishing to be somewhere else—"to chase the antelope over the plain," and all that sort of thing; for "a rolling stone gathers no moss;" and if you once get started at this wandering life, you will never be content in one place.

But it is not my intention to inveigle you into reading a sugar-coated sermon; so, begging pardon for the digression, I return to the camp in the gulch.

The snow-storm which drew me into the above remarks prevented us from enjoying the evening in the open air, and we took advantage of the shelter afforded by our little tent.

The prospects were that we should have to crawl between the blankets rather early, in preference to sitting in darkness, or in the snow by the declining fire. Imagine our surprise when the Captain drew from his little "ditty-box" almost the half of a candle. Where he had picked it up would be hard to state. He was one of those persons who have a place for everything, and invariably put everything in its place.

The valuable bit of candle was lit, and threw a warming, mellow radiance through the storm-assailed house. Following up his triumph of the candle, the Captain produced three or four copies of monthly magazines, old numbers, which had been received by mail months before, and slung into a corner of some old camp, after a hasty perusal, to decay unmoleted. Yet here they were, tied up in a neat bundle,—thanks to the Captain's characteristic trait,—and we were glad enough to take them, and read the articles which before had been skipped in the abundance of reading matter.

We read along, and became interested in various compositions, not noticing the flight of time. At last the Captain, happening to glance at the pocket chronometer hanging to

the standard, announced that it was nine o'clock, and stepped out to take a barometrical observation. He stopped by the door when he returned, and said, as he shook the snow off,—

"I tell you what it is, boys, this is a cosy little place," entering. "I wonder how much longer we will have to stay here! Seems to me about time that orders came to us to pull up stakes, and come on."

"So it does to me," said the Pirate; "and accordingly I want to proclaim a revelation which I have had in regard to the matter. My vision shows me that this storm will not last long. To-morrow will be warm, and the snow will melt, and before dark a messenger will arrive with advices."

"You base your revelation on substantial ground, and I see no reason why it should fail any more than succeed. It's time some one came; and I say, tell them to come as quick as they will. I, for one, am getting tired of this place. I've explored the whole valley, and half the kibab. Don't know what to do next, in the daytime. About the time hard weather sets in, we'll have to be staving around the country. That's just the way it goes," growled the General.

"You wait until to-morrow-night," the Pirate replied, "and you will pronounce me a 'prophet' *par excellence*."

"We'll have to wait, whether we want to or not," observed the Captain, looking up from the magazine, which had again absorbed him.

"Then," said I, "let us pass several hours of the time exploring in Dreamland, for it is not too early to turn in; the tent begins to feel colder, and Cap wants to save a fragment of his candle for another emergency."

"True," exclaimed the Captain. "I will give you just two minutes and a half to get under cover."

At the end of that time not a sound was heard but the wild moan of the wind, as it flew around the sharp corners of the cliffs, and the musical snore of the Pirate, in rivalry.

Clear and cold came the morning. The clouds had disappeared, verifying a portion of the Pirate's prophecy. The snow on a level was only a few inches deep, and, as it adorned the reddish hills, recalled to my mind the varieties of Christmas pastry, which we boys used to admire in the window of a little bakery around the corner from my old home.

Northward, on the trail over the hills, trampling down the imitation "frosting," I took a walk, when the sun was well up, for exercise.

I had not gone far before a large gray wolf made his appearance, and trotted along in a parallel course, a few yards off, for some distance. He held his head down, in a bashful sort of a way, and licked his chops, as much as to say, —

"Ugh! but this is a cold morning, and not a rabbit can I find anywhere. *You* look tender and tempting, and for two cents, or less, I'd prepare you for my dinner. So look out!"

Think* I, "Well, Mr. Wolf, you're an impudent vagabond, any way, to become my companion on my morning's stroll, without so much as barking good morning; and had I my rifle here, I would play you a nice tune to dance by. You are gaunt and shaggy, and would make a fine target."

My gun was safe in camp, and all I could do was to throw stones at the vicious-looking creature. At this he reconsidered the matter, and slunk away over the verge of a hill. I concluded my walk, and returned to camp, without seeing a sign of another animate being, except the tracks of coyotes and rabbits. I found that the Pirate had been out in a southerly direction.

"If I had only had my gun this morning! but it's just my luck to be without it when I want it. A coyote was coming along the same way I was, and he paid no more attention to me than he would if I had been a cedar tree. It made me mad. I hit him in the side with a big rock, and he picked himself up and walked off."

I related my interview.

"It is indeed time that we were moving away from here, if cowardly coyotes are getting so bold. They'll eat one of you delicate fellows up yet, if you don't mind your eyes," remarked Cap.

"I don't believe these are coyotes that we saw this morning," I said. "They are too large, and the one I saw was a dirty gray color. I think they are mountain-wolves, driven from the timber to the warmer valley by last night's snow."

"You must be right, for something larger than an ordinary coyote reached two or three of my skins last night, and I can't find a shred of them," said Cap. "What are you laughing at?" to the Pirate.

"Why, the General's making a gingerbread!"

And so he was. He had found a can of ginger amongst the rations, and had stirred up some flour, and water, and cream of tartar, and saleratus, and sugar, to which he added about one half the ginger. At the moment

the discovery was made, he was putting the mixture into a small tin pan.

"Perhaps you'll laugh the other way, my friend, when this cake is baked, and you find you can't have any."

"I am sorry, for it looks delicious. But where did you get the recipe?" inquired the Pirate, sarcastically.

"*Res-i-pee!*" What's that? O, you mean *receipt*."

The General had a habit, at times, of pretending to be very ignorant.

"No, I don't mean *receipt*, either. A receipt is a written acknowledgment —"

"Well," laughed the General, "I didn't have a written acknowledgment for the gingerbread, but perhaps I'll want one before I get through."

"Then, did you have a *recipe* — a prescription?"



"Tearing through a mass of hard branches."

"A prescription? No, I made my own prescription. But no wonder an ex-prescription druggist got ahead of me on *recipe*. I, being nothing but an old backwoodsman, can't understand *recipe*, when I've always heard it pronounced *receipt*."

"You heard it pronounced wrong, then."

"Never mind; it won't make the cake any better."

This ended the *recipe* argument. It was a regular source of amusement in camp — this controversy on words. If one mispronounced a word, either through carelessness or ignorance, some one was sure instantly to challenge him; and, unless he confessed his error, he was called upon to dispute the authority of several editions of Webster, with which we were, fortunately, only too well supplied.

The General's gingerbread baked slowly.

It was not done till long after dinner; and we concluded to keep it for supper, first sampling it, to see that it was good. It was a little "sad," and rather sweet; but we called it "double-extra."

The afternoon passed quickly away, and another point of the Pirate's prophecy was fulfilled: it grew so warm that the few inches of snow disappeared rapidly. As it turned cold again towards evening, the melting ceased, leaving patches of snow for to-morrow's sun to act upon. Supper time came.

"What do you think of your brilliant revelation now, my friend?" asked the General of the Pirate.

"I said he would come before dark; and it isn't dark yet. I have a chance left."

"A mighty slim one," said the Captain.

I was just raising a piece of gingerbread to my mouth, when I happened to glance towards the hills bounding the south-western side of the gulch. Twilight's lingering rays still illumined the sky with a soft light, and against this background I saw the form of a huge animal loom up. Hoping that it might be my morning friend, I exclaimed, "Look there!" and, snatching my rifle, hurried up. The animal was gone when I arrived at the point. I hunted around some; but the twilight rapidly faded, compelling me to go back.

Hardly had I reached a position half way to the camp, when I heard a long, familiar yell echo faintly from far up the valley. An instant more, and I was beside the fire.

"Did you hear that?" I asked.

"What? We didn't hear anything."

"Listen."

All was silent a moment; then we heard, "E-e-e-i-i-i-hooo-o-o" die away amongst the rocks.

"Johnson!" they exclaimed.

It was the looked-for messenger.

"Now, *ain't* I a prophet?" asked the Pirate.

"It's dark," said Cap.

"Q, you can't expect me to make too close a connection. You must be generous, and allow that I am endowed with extraordinary power. Remember that I wasn't among the Mormons for nothing."

"Very well; hereafter you shall be Prophet instead of Pirate. Does that suit you?" inquired Cap.

"It does."

"Hello, boys!" shouted Johnson, as he rode into the gulch, leading a pack-animal. "How are you all, any way?"

He dismounted, and the tinkling of his large Mexican spurs sounded like the ornaments on

the coat of *St. Nicholas*, as he handed us a package of letters. The pack was soon off, and in the alfogas we discovered some apples, a canteen of native wine, and some dried grapes.

The mail first claimed attention; but after it, we gathered closer to the fire, to talk matters over, and eat fruit. Orders were to break the camp in the gulch, and move to a spring in a low line of cliffs, fifteen miles from the western verge of the plateau. It was now Saturday night. Sunday we concluded to spend in getting things arranged; and Monday morning we would start for our new camp.

The Sabbath sun beamed peacefully upon the quiet little camp, and by noon we had everything as much in order as was possible. The afternoon passed off as quietly as usual, and in the evening, Johnson—who hailed from Oregon; had mined and prospected on Snake River, and in different parts of Idaho—related stories of his adventures with Indians; told us of the wonderful rich leads he had owned at various times; how he had once ridden an elk on a wager; and how he had hunted six months for "The Lost Cabin,"* but failed to find it; told us such tales as a miner would tell who had "rustled sage" from childhood, and who had spent at least two thirds of his life in the saddle.

At last it came bed-time once more, and our last evening at the camp in the gulch was ended. Until to-morrow we would sink into the oblivion of sleep, from which we should wake to take our departure. How soon to-morrow is to-day, and to-day is yesterday! Sunshine had scarce crept into the gulch ere our tent was struck and our packs were ready. But think us not too smart. Owing to the height of the cliffs, the sunlight did not enter the gulch till about nine o'clock. Still our start would have been early, as it should have been to make thirty miles, and to climb up and down many times, had it not been for two bronchos which refused to be caught. We had to resort to the lariat, which we tried to avoid, as it makes a wild animal all the wilder. Johnson easily threw a lasso on each of them, and we led them down to the site of our old camp, where the packs were slung on, sinched on, and sinched as tightly as our strength would permit.

One moment more, and our riding-saddles were on; the train formed in line, and filed slowly out of the gulch, and away from the spot whose every stone had become familiar

* For the story of "The Lost Cabin," I refer any who are interested to a number of the *Overland Monthly*, for about December, 1872.

to our eyes. It seemed hard to desert the place, and leave it to the coyotes and the ravens. I looked behind as we reached the summit of the bounding hill, to catch a farewell view of the rock-bound home.

There was the square of yellow canes which had cushioned our tent; the little pine close to the fire; the stone seats; the trail to the spring. All was lying quiet as the grave, and made me feel as though I were miles away. Down poured the sun with his usual steadiness; lazily little wreaths of smoke curled up from the smouldering fire. A raven sailed up, and perched silently on the pine where our beef had hung. Another, with motionless wings, sailed in and out of the angles of the cliffs, uttering a shout of, "Go-on, go-on, go-on!" The advice was useless. The hills and trees shut off the picture, and we were fairly at sea. In a short time we climbed the kibab, — where our advance party had ascended, — and entered the forest.

Johnson said that one of the party had encountered a world of trouble. He was wearing a broadcloth coat, which had done service at his wedding some years before, and which he prized very highly. He thought it would be romantic to wear it through this country; it would add to its value as a family relic. The horse he rode must have thought that a few honorable rents would also add to its value, for he persisted in going as close to the sharp-pointed dead branches of the cedars as he could without doing himself injury. So it was that this man with the wedding-coat had to keep a sharp lookout. As long as he watched him, the horse behaved very well, and his rider would begin to think that all was going on right, and would relapse into fond recollections of distant home and friends, gradually slacking the reins till the *cayoose* had his head. Then, the first thing he knew, he would find himself tearing through a mass of hard branches; and while the old coat yielded in dozens of places without a sigh, its wearer struggled hard to extricate himself from the broken limbs that clung to him, and the mountain-glades shouted back with exasperating intensity the laughter of his companions and his own unlimited curses. By the time he got through the timber his dear old coat was minus half a sleeve, part of the tail was gone, and there was not a foot of uninjured material to be found in it.

Although we regretted our old friend's misfortune exceedingly, we could not help enjoying the story of his troubles. He was an absurdly eccentric fellow any way; but his best

"hold" was swearing. He swore so well that it was only at extraordinary times that any one else was called upon to attempt the feat. He never started in for a few mild exclamations — not he. The way he did it was to reel out yard after yard of blasphemy, until he was obliged to stop for breath. Then somebody would inquire, "What's the matter?" "O, nothing," he would reply; "I can't find the hammer," or, "My saddle won't stay sinched," or something similar.

We laughed as we passed trees at intervals, whose broken branches recorded the tale of the aged wedding-coat.



The Pirate.

On account of the great weight of our packs, we were compelled to move slowly; and "two hours by sun" found us on the verge of a long, beautiful valley, not very deep, but two miles or more wide. When we arrived at its farther side, we concluded that the day's work had been enough for the stock, and we would camp. We selected a sheltered spot in the thick evergreens, and threw off the packs. There was no water; but small patches of snow here and there would refresh the animals, and *we* could rely on the filled canteens, besides two small water-kegs, which were full.

Wood was plentiful. An immense fire was quickly built, and shot its flames up into the clusters of green needles, making them crackle merrily. The General went to work to get the supper, with the assistance of the Pirate, while we three that remained took the horses out to an opening, where there was good feed, and *hopped* them. To hopple an animal is to fasten its fore legs together, — about eight inches apart, — just above the fetlock joint. Any old rope or strap will do for a hopple; but generally an "outfit" has straps made for the purpose, with buckles. The object in hop-

pling, you can plainly see, is to prevent your stock from wandering too far, and to make them easier to be caught. Where grass grows continuously, as in the east, "picketing" with a lariat and stake would answer as well, perhaps better. But where the "feed" consists of bunch-grass, — which grows, as its name indicates, in bunches, — the stock must be allowed to travel in order to get enough to eat, and still must be checked from going too far.

When the animals were all hopped, we went back to camp, and found supper ready. It does not take long to prepare a mountain meal. For bread, you mix the necessary quantity of flour, a little saleratus, a double amount of cream of tartar, and a pinch of salt. Next, add water, to form dough, and after it is sufficiently kneaded, it is placed in a Dutch oven, which is then set on a bed of live coals; the lid is put on, and covered with coals, and the bread left to bake. A Dutch oven is simply a flat-bottomed, circular, cast-iron arrangement, five or six inches deep, and supplied with a convex lid.

Sometimes bread is baked in frying-pans, and is then called frying-pan bread. It is the easier way, when the party consists of only three or four. The dough is made into a thin cake the size of the pan, and placed in it, after the bottom has been greased by a piece of bacon, to prevent the loaf from sticking; then it is held on the fire a moment, to give the bottom some solidity, after which it is propped up in front of the blaze by a stick, and soon puffs up, or rises, and bakes through.

At supper we discussed a name for the fine valley in which we were camped, and Johnson suggested "Summit."

"Summit Valley let it be, then," said the Captain, "since it is on the summit of the plateau."

When the camp was arranged for the night, a pack of cards made their appearance from Johnson's *catenas* (pockets on the horn of the saddle), and my four companions amused themselves by playing euchre.

For no particular reason, I dislike cards, and have never played; so I selected a spot under a pine, close to the fire, which was cushioned by the fallen spines, and, lying down, abandoned myself to reverie.

At intervals I would hear the Pirate exclaim to his partner, "Now, don't let them bluff you, General, don't let them bluff you," and similar sayings. Following this would come the usual discussion of card-players, as to whether this or that card had been played right. The General ought to have trumped this, or played an ace for that; Johnson didn't play this the way

the Captain had always played it before, and so forth. I have never seen a game played yet where there was not an astonishing amount of mulishness shown on all sides.

Next morning we climbed the west line of the valley, and after dodging through more thick timber, and around gulches, we came out upon the almost barren slope. A scene spread out before us fully equal to the one from the eastern edge. Mountains, cañons, and cliffs, — cliffs, cañons, and mountains, — everywhere. Johnson pointed out to us the cliffs, lying some fifteen miles away, wherein was located our next camping-ground. When we emerged from the foot-hills, we found a moderately level bottom, stretching away to the cliffs.

About noon we passed round the head of a mud cañon, which began abruptly in a level space. Had we not been fortified by the Captain's lecture on the Unknown River, we should have been puzzled as to why it had broken in so suddenly; but by thinking a moment, we perceived that it was simply the last point to which the action of an intermittent creek had worn its "plunge."

As the sun — our travelling gauge — approached the western horizon, we drew nearer our haven; and as he sank from sight, we passed the first salient point into a gap about a half a mile wide.

Several horses were seen grazing a short distance off, and we knew that old friends were near. Passing a chocolate-colored hill, we turned to the right, into a sheltered gulch, not unlike that of House Rock Spring, and, suddenly emerging from a clump of cedars, we saw, in an open space, two heavy wagons, with snow-white covers; a camp-fire; heaps of saddles, harnesses, rations, and so forth, scattered around, and several individuals, all of whom, but one, proved to be old friends, and gave us a hearty welcome. A new mail awaited us, and so much bustle going on around made us feel almost as though we had entered a large city.

When the inner man was satisfied, blazing fires started up in different parts of the gulch, and around them clustered groups of "gay and free" explorers, some reading aloud, some singing, others still reclining in warm corners, with pipes or cigaritos in their mouths, and meditating; while the more practical were busy testing new boots, hats, pantaloons, gloves, &c.

At intervals the envious yelps of the coyotes from the brink of the cliffs resounded through the camp, unusually close. They were always sure to be on hand when anything was going on.

Presently two horsemen galloped in from the settlement eight miles away. One of them proved, to our surprise, to be the good old Deacon, who sang so lustily about the place where there would be no more sorrow. He was well and hearty, and looked as spruce as a city dandy, in his new clothes — a proof that his sickness had not harmed him any.

Our "warbler" favored us with choice selections, such as "The Days of '49," "Always Gay and Free," "Colleen Bawn," and so forth, while the Captain made frantic efforts to blow a tune out of an harmonica, which he had picked up from amongst the rest of the "traps." He had hinted to me that he was going to strike out for civilization in the course of a month, but gave no very good reason; so I did not heed his words. It came to pass, however, that our companion of the gulch did leave us for quieter scenes.

They say all *good* stories end with a mar-

riage. In order that mine may not lack that redeeming quality, I will say that when the Captain reached the city by the Salt Lake, he proceeded no farther, but joined in matrimony's bond with a fair young saintess, who managed to capture him.*

But I am trespassing. Properly, I finished my record of the Camp in the Gulch when we bade it farewell; so, patient reader, as we join in the following "doxology," let us shake hands, and say, "Adieu."

"I had comrades then who loved me well —
A jovial, saucy crew.
There were some *hard cases*, I must confess,
But still they were brave and true,
Who never flinched whate'er they *pinched*;
Would never fret or whine;
But like good old bricks, they stood the kicks,
In the days of '49."

* This doesn't agree with what I said about the gallant Captain in No. 1; but there is no help for it. It's so.



GETTING ON SEA-LEGS.

BY AN OLD SALT.

PART I.

HAVING a desire to see the world, and meet with adventure, I went to sea in a whaler. I had no doubt but what I would enjoy myself at sea; but when I got there, I was a bit disappointed.

I enjoyed myself while sailing down the bay — the Narragansett Bay — with the wind on our starboard quarter. Its shores were verdant and beautiful, and everything seemed lovely, on that last morning in May. We had been watching those verdant shores for a week, almost, waiting for a fair wind; and it had come at last from the nor'-west.

The nor'-west wind carried us out past Newport, till we were in sight of Block Island, — the first foreign land we saw, as some one remarked, — and then it left us; and then I began to see the sea. My first recollections of it are indistinct, yet I retain impressions. I am confident it had a greenish tinge, and it seemed very uneven. I remember that I felt — disappointed. It was so different from anything I had imagined, that I could not help feeling disappointed.

I will not attempt to describe my feelings more minutely; for I do not wish to work upon anybody's sympathies; and I doubt whether I could express all I felt in such a way that it would be understood by one who has not been to sea. I will merely say that I passed the last part of the day in the lee scuppers, in a reclining attitude, pensively meditating upon the sea, and looking at it occasionally through the hole they called the bow-port. At times the boat-steerer, called Tom, or somebody else, would ask me how it was coming on, — meaning the sea, probably, — but I seldom made any reply.

They said it was calm; but what made them think so, was more than I could tell; it did not seem calm to me. There was no wind, it is true, but there was a great deal of motion. Whenever I looked out of the port — and it was quite often — the green waters seemed to rise up, in a mountain as it were, so high that I could not see the top of it. I had read about seas that were mountains high, and I saw that it was all true. But what there was about them that was grand or magnificent, was more than I could understand.

At last they had supper, — a few of them, — and night came. I didn't care much about it then, and only mention it now because it must have been at about that time that I began to feel better. It was still calm, they said, and I suppose it must have been; but whether it was or not, the boat-steerer, Tom, — short and dumpy, but a real good fellow, — persuaded me to drink about three quarts of salt water, — it don't take long to drink three quarts of salt water after you get it a going, — and pretty soon I began to feel better. Tom staid by, to keep me from going out through the port-hole; and finally he took what there was left of me, and set it down beside him on the carpenter's bench, abast the try-works.

The moon was full, and I began to see that it was really calm, although there was still

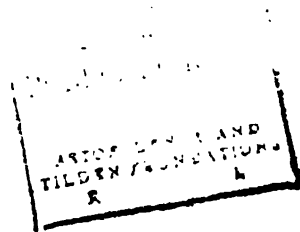


some motion. It was a beautiful night, I have no doubt; but I would much rather have been at home. Tom showed me Block Island; but it didn't do me any good. Neither did the shimmering of the sea, nor anything else that I could see. How long I sat there I have forgotten; but that was the way I ended my first day at sea.

I was very light for a few days, but Tom said it was most always so when one was getting his sea-legs on. We got out of the green water, to where it looked hard and blue, and yet it was not attractive. It was only the third night out, I think, that we had a blow, and I had an opportunity to help shorten sail. I would have preferred to stay on deck, but having got the impression that every man would be expected to do his duty, I went up — on to the main yard first — to help furl the



PERILS OF THE SEA.



biggest sail in the ship. It was very fortunate that there was a strip of wood, called a jackstay, on top of the yard. I held on to it, and edged away out, at the risk of my life, on a foot-rope that brought my chin up about to the top of the yard, and which, under the circumstances, seemed a very unsafe thing to depend on. I didn't do so much furling as some of them, but I was there, holding on. I had no idea the sail was so large and so heavy, till I went up there to help furl it.

But when the mainsail was stowed, we had to go up over the top; which also seemed a dangerous thing to do. If I had fallen, I don't think I should have known it, for I never knew how I got up. But when I heard the mate's order to hold on while he squared in the yard, I knew I was there, away out half way to Tom, who sat astride of the very end of the yard, as unconcerned as if he had been born there. I couldn't see, for the life of me, why he didn't fall, particularly when the mate ordered us to hold on. I should have obeyed that order had it been only a request. Very likely it was intended for Tom, and not for me. It seemed a piece of recklessness on the mate's part to let that yard loose while we were all on it. But I found out that the object was to get the wind out of the sail, so that we could handle it more easily. Fortunately there were enough of us, so that, with what little I could do, we were able to manage it. When it was all over, and we were down on deck again, Tom said I was a capital hand aloft. He even hinted that I must go to the earling with him every time.

Still I wondered what there could be that was attractive about the sea; and, particularly, how those men could eat anything that came out of that—cook's galley! The smell of it was enough for me. And the cook!—I didn't love him then; for he was a bareheaded, bare-breasted, barearmed, barefooted negro, with perspiration streaming and glistening all over him. How *could* the men relish their food!

One of the old hands learned us the ropes, — we green ones, — taking us round and calling every rope by name. I had no idea there were so many ropes in a ship before. There were tacks, sheets, braces, halyards, reef-tackles, buntlines, bowlines, clewlines, out-hauls, downhauls, &c., &c., a large variety of each, — except the cook's kettle halyards, of which there was but one, — and we must know just where to find each particular rope the instant an order was given; and how to haul on it, too. At the same time we learned to box the compass, and to steer the ship.

In a couple of weeks I knew the ropes, and

could take my turn at the wheel. Still I had no appetite. I could eat hard tack, but anything that came out of the cook's coppers was too hearty. One wet night, when we had been out about two weeks, I got the first thing that tasted good. It rained that night, and I felt very sorry. I never had been used to standing out in the rain four hours at a time in the middle of the night at home, and I was afraid it wouldn't agree with me. I had some thought of saying so to the second mate, in whose watch I stood; but remembering that he had on a good water-proof suit, I concluded not to. My clothes were not the kind that turned water, and it seemed a cold sort of rain.

We men were allowed to stand in the lee of the house, aft, however, where there was not quite so much wind. I remember that some of us talked about home, and the best way to get there, and I got the impression that there were others who were beginning to feel afraid that the sea would not agree with them. The fourth mate and the boat-steerers were with us, and once in a while they would try to make us laugh. Possibly I smiled once or twice, but if I did, I have no recollection of it; and it was so dark that a smile could not have been seen very far. When we had been there about three hours, something touched me — outwardly, I mean. I put out my hands to feel what it was, and it seemed like a bread-basket; as I had suspected, from the squeak, it might be.

"Take some," said a low voice, which was Tom's; "it's all right."

There was something soft in the basket, and I took three of them. They were cold biscuit, as we would call them on shore, but at sea they were "soft tack." The basket went round, and every man took some.

Tom was rather short and dumpy for an angel, but I sometimes thought he was almost good enough to be one. It's possible he is by this time.

While I was eating, a soft voice near me said, "It goes to the right spot."

I understood just what it meant, for mine went to the right spot too. It was the first food that really tasted good to me after I got to sea. It came by accident, — or, I am not sure but I might say, providentially. The steward had been baking soft tack the evening before — an extra lot of it — for the cabin table. His well-filled basket had been left near the window in his pantry. The pantry was on the same side of the house against which we were standing, and the window — a sliding one — had not been made fast. In rubbing

against it, Tom made the discovery. Very naturally he shoved the window clear back, and began to explore. Very fortunately the bread-basket was so near he could not miss of it, and the result was as I have stated.

After that I began to pick up gradually. The soft tack gave my appetite a start, as it were, and before we arrived at the Western Islands I could eat bean soup and duff with any of them. My appetite for salt junk was longer in coming; but finally I could master anything the cook had to offer. There is no telling what a man can eat till he goes to sea. To be sure I used to long for a little milk and sugar to put in my tea and coffee, but I even got over that before I had been at sea four years.

Then, too, there was a lack of knives, and forks, and earthen ware. All the crockery I had — and it was as much as any one had in the fore-castle — was a tin pot that held a quart, an iron spoon, and a little tin pannikin for a plate. I took care of all these things myself, washing them occasionally when water was plenty, and cleaning them with oakum when it was not. I used to pick up all the fag-ends of ropes for dish-cloths. It was plain enough that some of the old sailors pitied me for being so nice. They did not think it necessary to wash dishes more than once a week, and some got along very well without washing them at all.

I got sympathy of various kinds. The second mate, Mr. Bowlegs, used to speak kindly to me, when there was nobody else about, and sometimes when I was at the wheel the captain seemed to feel an interest in me. I suppose it was seldom they got such a tender sprig at sea. None of them seemed to swear at me quite so hard as they did at the others. Even the cook had pity for me.

I'll tell you how it was about the cook ("the doctor" we always used to call him) — the black, shiny fellow! He first showed his good-will towards me by calling me slyly behind the galley, one evening at supper time, before I had come to my appetite, and thrusting into my hands some warm soft tack, — a part of his perquisite from the cabin table, — "Put *them* under your shirt and keep dark," said he, in his husky voice; and I knew very well what he meant. He wanted my washing; that was all.

I was very willing that the doctor should do my washing, all but the dishes, and after that I had as clean clothes as any one. In return I gave the doctor all the tobacco I had, and some other things that I thought I would

have no use for. Of course I did not go to sea without a supply of tobacco, expecting to learn how to use it. I did make a few feeble attempts in that direction before we weighed anchor, but after we got to sea I was so disappointed that I gave up my experiments, and have never had a desire to resume them since. I am getting along in years now, and I don't think I should have enjoyed any better health even if I had used tobacco.

One evening the doctor gave me a flying-fish for breakfast. Think of that!

The old lady whose sailor son told her about flying fish, didn't believe in such things, because it didn't tell about them in the Bible. But when he spoke about heaving up Pharaoh's chariot wheels out of the Red Sea, it was all right; because, according to the Bible, Pharaoh and his host were overwhelmed in that sea; and no doubt she was glad enough of it, not thinking what a weeping and wailing there must have been among the poor women and children at home.

But the doctor actually gave me a flying-fish for breakfast; fried, I think. At any rate, it was fried or broiled. It was a breezy morning, and the fish flew on board our ship. Poor fellow! he didn't know what he was coming to. We had just begun to wash off decks, — something I won't say anything about at present, — and there were flying-fish all around the ship, darting from sea to sea; that is, from the crest of one wave into another; sometimes going several ship's lengths clear of the water. It happened that the flight of this one was arrested by the inclined deck of our ship, and thus I got him. I gave it to the doctor to cook for me, and he could hardly do less than give it back, especially as he was my washer-man. And so it happened that the doctor gave me a flying-fish for breakfast.

And yet I was not happy. The sea had disappointed me. The ship, too. The customs, and the style of living that prevailed on board, were not in accordance with my tastes. I had been differently educated. I had a general tendency to feel sorry, and very early in the voyage I had made up my mind not to be a sailor. I remembered the old farm, — the best place in all the world, — and resolved to improve the first opportunity that should offer to return to it. I even spoke to the captain about it. He seemed pleased at my attachment to the old place, but thought I could do much better to stay with him. I told him, "I had no idea he was going to make so long a voyage. The shipping-master had told me it would only be an eighteen months'

voyage; which I had thought would be as long as I should care to be at sea the first time."

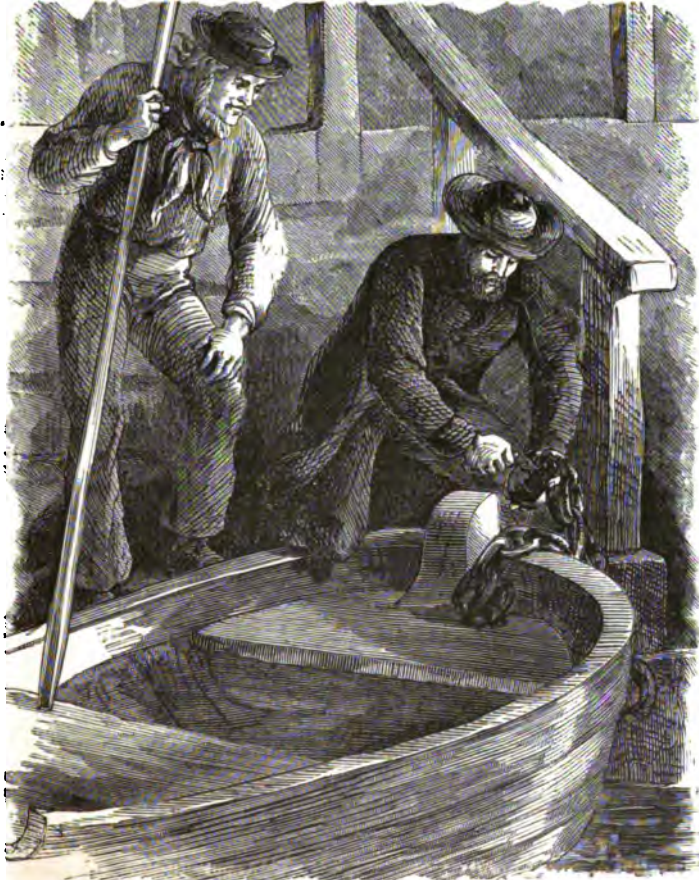
The captain tried to make it easy for me. "If we should have good luck," he said, "we would not be gone more than three years, and by that time I ought to be able to steer a boat." He promised to teach me navigation, too, and told me to come into the cabin that very day, after dinner, and show him how I could "figger." I got the impression that there was a book in the cabin with a great many figures in it; but I got little encouragement of reaching home till the end of the voyage. I gained something, however; for after that I spent an hour in the cabin almost every day, for a time, making figures. I had never seen so many figures before as I found in the captain's "Epitome."

I will just say here that the name of my ship was North Light; the "Old North," we used to call her. The captain's name was Lancer, — Captain Lancer, — generally known

among the crew as the "*Old Man*." We seldom called him anything else. We were bound to the North-west Coast, by the way of the Cape of Good Hope and the Indian Ocean. And I will only remark further, in this connection, that the voyage lasted just four years. The ship arrived home in the same month of the year in which she had sailed away.

After my interview with the captain, concerning home and the way to get there, I came to the determination that I would be free. I began to think of it as soon as I left the captain to go forward, and by the time I reached the forecabin, had resolved to be free. "Give me liberty or give me death," said Patrick Henry, "and give me freedom," thought I.

I knew that I could never be free at sea, but we were to touch at Fayal, — it was all the talk till we got there, — and I supposed that then we would all go ashore, for a few hours at least. Then I would strike for freedom and my native land.



GETTING ON SEA-LEGS.

BY AN OLD SALT.

PART II

I LOOKED eagerly forward for the Western Islands. It was a hazy, soft summer day when we first saw Flores, like a great bank of smoke, away to the eastward. Almost at the moment we first saw it, the ship lurched so heavily, that our allowance of bean-soup, just passed out of the galley for dinner, was capsized upon deck, and went in diagonal lines towards the scuppers. Shanks, who was at the wheel, was accused of capsizing the soup on purpose; but probably it was all owing to his trying to see the land. I am sure he regretted the loss as much as any of us, for he was affectionately fond of beans. The second morning after that we were in sight of Fayal.

It was the Fourth of July, — the day of all others when thoughts of freedom come, — and I was still firm in my resolve. We had arrived off the entrance to the harbor in the night, and at sunrise the white walls of the town were in sight, the ship running in towards them. I put on some extra clothes that morning, although the weather was warm, and watched the shores, and the town we were approaching, with much interest.

The island looked inviting, its attractions increasing as we sailed farther into the bay, past a yellow-walled convent, or church, on the left. It was really a foreign land; but I felt very willing to stop there, till I could get a chance to go home. To be sure, there might be a difficulty in interchanging ideas with the inhabitants; but probably that could be overcome.

Back of the town, whose low white walls stretched around the head of the bay, were beautiful green sloping fields stretching away up the hills, surrounded by hedge-rows, as it seemed at that distance. Some of these fields were under cultivation, apparently, donkeys and men being seen moving about in them. The rising sun shone brightly over all, scarce a cloud being in the sky.

We ran in till we were within a mile of the town; and then the ship was hove to. I was not the only green hand who expected to go ashore. Most of us were ready for an excursion, and the old hands probably thought it would be well enough to let us believe that we would have an opportunity to enjoy one. But again I was disappointed. When the main yards were aback, the captain told Mr. Shooks, the fourth mate, to lower his boat — the star-

board quarter-boat. It was manned by a picked crew, of whom Mr. Shooks was one, Tom another, and the balance all regular old salts who wouldn't run if they could. Then the captain got in, and they pulled away. Then I saw Captain Lancer's game, and my confidence in him was greatly shaken. I never had so good an opinion of Captain Lancer after that.

As soon as the boat was gone, Mr. Plump — that was the mate — ordered us to brace forward; and we were soon standing right away from the town, out to sea again. I can hardly tell how I felt, when I found that nobody else was going ashore. I had been so sure, all along, that I should stop at Fayal, that I was for the time a little sore in spirit. I wondered how any captain could have the heart to treat honest and confiding men in that way. It occurred to me, at last, that he must have been a green hand himself some time.

But there was no help for it; and finding my clothes rather warm, I went down and took off part of them. Vain hope! Fatal delusion! When should I ever see my home? I thought hard of my captain all day, and for some time after. He looked like a guilty thing when he came on board at night, and retired so quickly to his cabin that I was sure he was conscious of having done wrong.

We stood out, past the yellow building that was on our right now, till we were half way over towards Pico. The highest land I had ever seen was right before me, but it did not interest me much. The Peak of Pico rose almost eight thousand feet directly from the sea; but it would have been all the same to me if it had been only five thousand feet. The water was covered with "Portuguese men-of-war," all around us; yet they did not look very formidable. They were said to be capable of inflicting pain, however, and we were advised not to go overboard among them. The advice was well thought of, for there was one, at least, who was meditating something of that kind, should night come early enough.

Those "men-of-war" carried no guns. They were merely little floating nautilæ, provided with membraneous appendages, of a pinkish hue, which they raised above them and used as sails. They were delicate-looking little things, and very numerous. Their touch upon one's flesh, when in the water, produces a stinging sensation, and therefore, as the water was literally covered with them, a swim towards the shore would have been very painful, to say the least. Having learned these things, I lost all hope of reaching the shore in any way.

At last we wore ship, and stood back towards Fayal. It was nearly noon by the time we got well in towards the town again, and not near so cool and pleasant as it had been in the morning. By this time our captain had made purchases on shore, and we met a large shallop coming off with supplies. It was accompanied by several smaller boats, containing articles to be yet disposed of on private account. We hove to, and the boats all came alongside. Then those who were in them spoke Portuguese; and it was wonderful how much they could talk in a short time. They had on quaint steeple-crowned hats, and looked odd in their dress generally.

The supplies consisted of hogs, — covered skeletons, as Short remarked, while he helped one on board, — fowls, potatoes, onions, and four bushels of apricots. The apricots looked nice; but they were for cabin use. The most I could do was to wish I lived in the cabin. The hogs — they were funny fellows. They consisted mostly of nose and tail. Between those points they had not much to brag of. They had no end of tail — that we could discover. They wore them in ringlets — a fashion that used to prevail to some extent among our own hogs.

There was nothing peculiar about the fowls, or the onions and potatoes; but in the small boats were some fruits, such as were in season, that we could have by paying for. There were also cheeses, pressed in little flat, round cakes, that would weigh about a pound each. The old hands seemed to know all about them, and called them jackass cheeses. I bought a few of them, and some fruit, with a reckless disregard of cost; and retiring to a corner, refreshed myself, and found some comfort still.

It was impossible to keep my eyes off those swine while I was eating. There were about fifty of them, and it seemed strange that the captain should take so many such things to sea with him. I wondered if any of them would go into the cabin. One of them came up and smelt of me with the end of his nose, and I gave him some cheese. They seemed inclined to be friendly, all of them. As we were to be shipmates, it would be well to be on good terms with them. It occurred to me, as I watched them, that they were of the same breed that ran down the mountain into the sea.

The boatmen staid by till they could sell us nothing more, and then they cast off and ran back towards the town, while we stood out to

sea again. Returning, and running well in late in the afternoon, we met the captain, who had in his boat three Portuguese youth, whom he was going to make seamen of. It was evident that the poor fellows had on their best clothes, and I pitied them. If I could have talked in Portuguese, I am not sure but I should have told them how it was; but not one in the ship could speak to them in that language, nor could they speak to us in ours. As I have before remarked, the captain retired quietly to his cabin soon after his return. Then Mr. Plump once more headed the ship out to sea again.

The breeze left us soon after sunset, and as it was near the full of the moon, we had a lovely night — drifting upon the shimmering sea between the shores of the two islands.



Having given up all hope of reaching either shore, my mind was becoming resigned, — to wait for the next chance, — and I was in a measure prepared to enjoy the beauties of the scene. I will not attempt to describe them, as such beauties can hardly be appreciated unless they are seen.

The next morning there was a breeze, and when I turned out at breakfast time, having had the morning watch in, we were running to southward in the very shadow of the Peak of Pica. It soon became known that we were to touch next at the Cape de Verdes, for a supply of goats; to be companions for the pigs, perhaps. (I am sorry to say the pigs were all sick as soon as we got them fairly to sea; and not only the pigs, but the fowls, and the three Portuguese youths. Poor things! they all seemed disappointed.)

For two or three days I did not visit the cabin; but finally the captain ventured to

speak to me again, when it was my trick at the wheel; and as I answered him kindly, he invited me to resume my studies. After all, I could not very well lay up anything against him; he had the advantage of me, and, of course, a right to use it. It was possible, I thought, that I might do the same if I were captain. So I forgave him as much as I could, although I resolved that I would get on shore, if possible, at the Cape de Verdes. I resumed my studies, spending about an hour each day in the cabin, as before; and again the captain and I were on very good terms.

And now I will speak of the steward, with whom I came in daily contact. He was very black; blacker than the doctor, if possible, but not so shiny. His was a more gloomy, sombre hue, like the darkness we see — when we can't see anything. That was the color of the steward. He had a very large and very angular frame. He had but one eye, and that looked always across his nose, as if hunting after the other eye that used to be there. I never saw a man with only one eye who squinted so extremely before. On his head he always wore a bright, stiff bandanna handkerchief, in the form of a turban, so drawn down as to cover his blind eye. I never saw, before or since, on any other man, such a solemn, mournful visage as that steward had. His English, when speaking, was much broken. It was said he was a native African, and I have no doubt he was. He had a deep scar upon one cheek, that looked as if it had been made by a hot gridiron. In short, his general appearance was such as to suggest that he had been severely kicked by Fate.

This steward was the cabin housekeeper. He was neat, and very efficient in his place. He had the dispensing of all the luxuries that went forward for the men, and therefore he was respected. Soon after leaving the Azores, he spoke to me one day, when I was pursuing my studies alone. He wanted to learn to read, he said, and he'd got a spelling-book in his chest; wouldn't I learn him? I promised to assist him, and agreed to meet him that night, during the dog-watch, in his *state-room* — a little cuddy-hole with a berth in it just forward of his pantry.

I kept my engagement, and found the steward ready with his spelling-book. It was a new book, — not a leaf soiled, — and the old fellow felt proud of it. We looked it through, and turned back to the alphabet, and I tried to learn him A.

"Now, steward," said I, "that's A; the letter we all begin with."

"I wanter know," said he; "less twig him

agin. Don't look suff he'd be very hard to lun."

Then we tried B; and the steward seemed to think he'd be a hard one. Finally he got an idea.

"It looks like de darbies deys put on us when we kick up dat rumpus in Callao. Ise got him now, shuah."

Then came C.

"I doesn't quite unstan wat dey calls him see for," said the steward.

My pupil had me there. For the life of me I couldn't tell why they called him see, and the best thing I could do was to go on to D.

When we had got through with about half of them, the steward wanted to go back and review. So we went back. He had forgotten about A, but remembering the darbies, he was just going to say B — but couldn't think of it. And it was so with all the others. Finally, after several vain attempts to remember the names of the different letters, he closed the book in disgust.

"If dat's what you calls readin'," says he, "dis chile kin get along well 'nuff widout it. I don't wants no more book lurnin' for me."

I felt a bit relieved at this decision, and made no effort to persuade him to another effort. Nothing else occurred worthy of mention till we sighted Fogo, one of the Cape de Verde Islands.

Fogo was not the island the captain wished to touch at, and it was not till two days after that we were off Brava, when it was proposed to land. I learned from Tom, who had it from the fourth mate, who of course got it from the captain, that *two* boats were to land, and that the regular crew belonging to each boat would go with it. Of course, one of the boats was the fourth mate's; and the other was not mine; for I belonged to the bow-boat, which was Mr. Sharp's, or the third mate's. I did not stop to consider what sort of a place Brava was, or anything about it, but having advantage of this information, I determined to make a desperate venture. Tom knew very well that I was anxious to go ashore, though he may not have understood the reason why. I asked him if I might take the place of his after-oarsman, if I could arrange it with that man. He said it would be all the same to him, he didn't care who went, though it was possible that Mr. Shooks or the captain might object. I did not apply for leave to Mr. Shooks or the captain, but went forward for my man.

It was Shanks who pulled the after-oar in Tom's boat, and to him I went, though with no appearance of haste. "Shanks," says I,

"what will you take for your chance of going ashore?"

"I dunno," says he; "what'll ye give?"

"That wasn't what I asked you; what will you take?"

"Ye ain't such a darned fool as to think we'll get a chance to go ashore — are ye?"

"I don't know," says I; "it's possible some of us will have a chance."

"Wal, I'll sell mine cheap. What'll ye give for it, naow?"

"I'll give you one of my red shirts, Shanks."

"It's a bargain!" and Shanks clasped my hand. "Bring on yer shirt."

The shirt was transferred to Shanks's chest before plenty of witnesses, and I was sure of his chance of going ashore, — provided the captain should not object. The price was cheap, I thought, considering that the climate was so warm there. I had three good woollen shirts left, which would certainly be as many as I would need should I stop at Brava.

The aforesaid bargain was completed the evening we arrived off the island. We were to lie off and on through the night, and land the next morning. When the morning came, I dressed myself, before it was very light, much as I had done at Fayal. That is, I put on two shirts and an extra pair of trousers. (Sailors never wear pants.) I was careful not to make much show with my clothes; and when I was dressed, I put what money I had left — about two dollars, I think — no scrip among it — in my pocket, and went on deck to look at the land.

"It's a hard looking old place," said Shanks, quite happy, evidently, that he had no chance of getting to it.

And so it was; but even such a place was better than none. It seemed only a great brown mountain rising out of the sea. We could see nothing green upon it, nor any sign that anybody lived there. I said to Shanks, —

"It's possible the old man has made a mistake."

The breeze was light, and it was very warm, especially for two suits of clothes. By the time we were through breakfast it was almost calm; the wind seemed dying out. We were still some three or four miles from the shore; but we had been well exercised in the boats, and it would not be much of a pull to reach it. So, as soon as breakfast was over, the order was given to lower the two quarter-boats, and for their crews to man them.

"Darn it!" said Shanks. "I say, Eph, you may have your shirt back; I don't want it."

"Twas a fair bargain, Shanks."

"I know it; but you may have the darned thing back — I don't want it."

But there were witnesses at hand who put Shanks to shame, and I went to take his place in the boat.

"Where's Shanks?" inquired Mr. Shooks, as I went down the side.

"He isn't going, sir; he ain't feeling well, and I'm going to pull his oar for him."

"Out with it then, and give the stroke;" and elated by my success I went to work with such a will that I was soon blinded by the perspiration that trickled into my eyes. I sat face to face with the captain, who never made any remark whatever to me, though he talked all the time with Mr. Shooks, and the drift of his conversation was landward. He said Brava was a fearfully unhealthy place — everybody had the yellow fever there. It was as much as a man's life was worth to try to stay there more than a few hours at a time. I overheard and reflected upon what the captain said, and the perspiration poured down me. It is possible that the captain suspected I had some thought of staying there, and had too much regard for my feelings to say to me, directly, that the place was unhealthy.

It was very warm, as I will again remark. I don't know how it happened to be so warm that morning, unless it was because I had on so many clothes. And it was a long way to the little bay where we landed. It was a hot little bay, or cove, with steep, craggy cliffs all around it. The sun poured straight down into it, and it was warm. I could only look backward, while I was pulling, and could not see what we were coming to; but I got the impression that it was quite a different place from Fayal. I could hear the surf dashing upon the rocky shores ahead, and right and left, and a sickening odor — sickening to me — came from the land. It was a smell of tropic sweets and roasted earth, as it were, all overdone. Presently there was a clattering of tongues, — Portuguese tongues, — a braying of jackasses, a bleating of goats, a squealing of pigs, a crowing of cocks and cackling of hens, harmoniously mingled with the roar of the surf — and we landed.

I could see no town, but I could hear all the noises, and see where they all came from. My first impressions were unfavorable. I thought I would not like the island for a residence. There was but a very small area of level ground where we landed, the brown, barren cliffs rising almost perpendicularly all around it. Two or three huts could be seen near the entrance to a ravine, that probably led to a

better country beyond; and perched upon shelves of the cliffs above, were two or three more. That single narrow passage between the mountain walls seemed the only way by which people living beyond could reach or leave the shore. Should I attempt it? I could not at once decide.

There must have been a hundred natives there to meet us. Probably there were many more,—and they had brought down a little of everything that the island produced to sell to us. They didn't know that I had only two dollars in my pocket. Everything was so strange, and so noisy, that I was almost be-

reflected. I had not been there long before a fine-looking young Portuguese came to me, and put a question. Says he,—

"You know my broder, Joseef? You no come Salem?"

I was almost sorry that I didn't know his brother, for I saw that he wanted to hear from him very bad; but—I couldn't tell a lie. So I had to tell him that I had never been to Salem; and he seemed disappointed.

"You 'Merican! How dat, no go Salem?"

I had to explain that every American did not go to Salem; but I thought he seemed to distrust my sincerity. He was a fine-look-

ing fellow, neatly dressed,—that is, he had on a clean shirt,—and I *would* have liked to have told him about his brother—the more because I had a brother in America also, whom I wished to hear from very much. How he came to speak English so well I could not understand,—unless he had learned it expressly to inquire after his brother.

Before I was aware of it—before I was done sitting on that rock, even—the captain was ready to go back; he had bought all he wanted. Tom came to me and told me so, and of course I must wait till another time. It was very hard, but it was all fair. The captain had the advantage of me.

We piled a lot of bananas, and fowls, and other things into the boats, and then, getting in ourselves, pulled back towards the ship. We were followed by two or three boats that belonged to the islanders, bringing the goats, of which the captain had bought a large number. The weather had not changed; still I did not feel quite so warm while going back. We reached the ship before noon, and

by dinner time all the goats were aboard, and we were ready to go on our way again towards the *Croazels*, in the Indian Ocean, where we were to do our first whaling.

I couldn't help thinking of my shirt,—or rather of Shanks's shirt, which I had given him, and which it occurred to me that I might as well have kept. Shanks, evidently, was as much dissatisfied as I was; but it was too late to trade back then. He did not know for some time that he had the best of the bargain.

We stood to southward again; and before night Brava was almost out of sight. I had fairly got my sea-legs on.



wildered. There was no cessation of the noises I have mentioned; everybody wanted to sell, and everything seemed to want to be sold. A goat with a very long beard looked at me, and pleaded pitifully; but I hadn't the money to spare. A donkey with a sorrowful face looked at me as if he had found a friend at last; but I couldn't take him. Perhaps I might stay with him; I could do no more.

There was nothing to go away from the shore for—unless one had special business, like mine. There were rocks about, large enough to sit on, and I went a little to one side and sat upon one, and looked about and

WHALING ON THE CROZETS.

BY AN OLD SALT.

I ALWAYS enjoy music. A hand-organ does not disturb me. Indeed, I cannot quite understand why so many people, who seem reasonable in other things, should object to hand-organs being played in the streets, since it is so delicious to have music in the air. The influence of music—who can tell? It rouses to action, or it soothes the troubled soul; and it lifts us all heavenward.

Therefore I am in favor of organists, everywhere, and of every kind, because there is everybody to hear, and some don't know one kind from another. If I were to except any, it would be the old lady who served under the first Napoleon, whose notes are so faint and squeaky. She is generally on the Common, or thereabout. One would think that she must have played at Moscow, and that her instrument took a cold on that occasion from which it never recovered, so faint and squeaky are its notes. It seems almost a pity that she did not leave it behind her there.

But I would not exclude even this old relict; for, though so wrinkled and weather-beaten, and turning out such unlovely sounds, she is a sister of mine, and I pity her. She was young once, and may have been handsome. She had a father to love her—as she has still. Her Father is my Father. If pity is love, I love her too. We should all love one another, you know. I love her, and would let her play, though her music be ever so shaky and squeaky. Let her play!

But I was going to remark that our blacksmith—we called him "Smut"—was one of the "darnedest fiddlers," as Shanks expressed it, that I ever knew. He was born a-fiddling, he said, and it came so natural to him that he couldn't help it,—he had to fiddle. He used to tell us that he had done nothing but kill cats for a month, before beginning the voyage, so that he would be sure to have strings enough for his fiddle. The old Toms made the best bass strings, but he preferred the little kittens for the upper notes.

Every night, in pleasant weather, Smut would bring up his fiddle, and "make it talk." Then things would be lively. The waist of the ship was the ball-room, and every one who could dance a jig, hornpipe, or breakdown, performed; while Smut sat on the carpenter's bench, and fiddled and cracked his jokes. I used to think sometimes he would fiddle too

much. But no ill effects ever came from his music, and I am quite sure now that a fiddle is a good thing to have at sea.

And so, getting a little good at times, we jogged along towards the Crozets. To the southward of the Cape of Good Hope we had a good deal of heavy weather, and there was a wintry feeling about it that made heavy monkey-jackets desirable. Indeed, the weather was of that character all the way from the Cape to the Crozets; and so it continued even after we had arrived there.

We found whales; hardly a day passed without our seeing them; but they were shy, wide awake, and hard to come at; and the frequent recurrences of heavy weather made the matter worse. There were times when a whale might have blown without fear of harm under our very cabin windows. On these accounts we were not very successful.

We cruised for several weeks, but took only four whales, I think, that we succeeded in cutting in. Two were lost by its coming on to blow, after we had got them alongside, so heavily that we were obliged to let them go. And one of those that we succeeded in cutting in was first let go in the same way, but recovered after the weather had moderated, and after it had been adrift so long that it smelled—bad. It had become filled with gas,—not the kind that Professor Donaldson uses,—judging by the smell, though that smells bad enough,—which distended it enormously, and shaped it somewhat like a balloon. We cut that whale in, after a while, but I have never loved whales since.

Hardly a day passed in which we did not chase whales, unless it was really blowing a gale. We pulled and pulled, sometimes all day, without getting fast,—Sundays as well as other days. If a captain stops whaling because it is Sunday, it is an exceptional case. It did not happen in the North-Light. I suppose it is considered always a work of necessity to take whales.

Sometimes we would get fast to a whale that would run us almost out of sight of the ship. More than once we had to cut and let our whale go, after the ship was so low down that we could see nothing of it but its topsails; and once, I remember, we did not get back on board till long after dark. The result of so much pulling was to make us good oarsmen, if nothing more.

Stoven boats were not rare. Indeed, Smut, who did carpenter's duty as well as his own, had more than he could do to keep the boats in repair. It was fortunate that we had so

many spare boats, for sometimes two or three were waiting repairs at once. I will endeavor to give an idea how one accident of this kind happened.

One day, two or three whales were "raised" at the same time, all near together. They were at least two miles away to windward, and the weather was a little rough; but we lowered all the same in a great hurry, and pulled for them. It would have done a fresh-water man good to have been with us that day; he would have got well pickled, at least.

The bow-boat, to which I belonged, almost always took the lead in a chase; for Mr. Sharp was the most energetic of all the mates, and Scamp, his boat-steerer, was in that respect very much like him. They were both small men, very compactly done up, and filled with "pluck." One being in the bow and the other in the stern, it was as if an electric current extended from one to the other right through us who were between them, enabling us to out-pull all the other boats' crews.

This time we reached the nearest whale ahead of all the other boats, and our bows actually touched his side; and Scamp shoved his iron deep into him before he was aware of our approach. He breached upward, and rolled as he sank back, the point of the fin that was on our side falling upon the boat's gunwale, crushing it down, but not quite upsetting us; and then, with a tremendous pat upon the water with his flukes, he went down.

If so much lead had fallen straight down a quarter of a mile, with our line attached, the rope could hardly have gone out faster. It disappeared from the tub with magical swiftness, almost setting the loggerhead round which it spun in a blaze, and seemed but a flashing line of light leaping through the boat and out at the lead-lined chocks in the bows. A very short time would have taken it all out; but before it was quite gone the whale stopped, the line slackened, and we began to haul in.

"Now is our time!" said Mr. Sharp. "Round it in; he's ours, sure!"

It is not so light work as some might think to haul a long whale-line straight up out of the sea; but we got it in as fast as we could, while Mr. Sharp changed places with Scamp, so as to be ready to lance the whale. The whale must have risen almost as swiftly as he had gone down, for sooner than we expected we heard the "whi-s-h" of his spout, and saw his back above water. He was some distance off, however, and immediately he started to run.

"Haul in, men! haul in!" and we did our

best to get in what line we could before the whale should have straightened out the slack, never noticing that the second mate's boat was fast to another whale that was running square across our bows. In a moment, however, the other whale crossed our course, and we heard a warning cry just as our line tautened. But it was too late; we had barely time to see what the matter was, when the waist boat dashed into ours near the bows, and crashed right through it.

There we were in the puddle, our boat floating around us. All we had to do was to keep our heads out till the first mate came, and picked us up; for Mr. Bowlegs did not cut from his whale—not at all: he knew we could take care of ourselves.

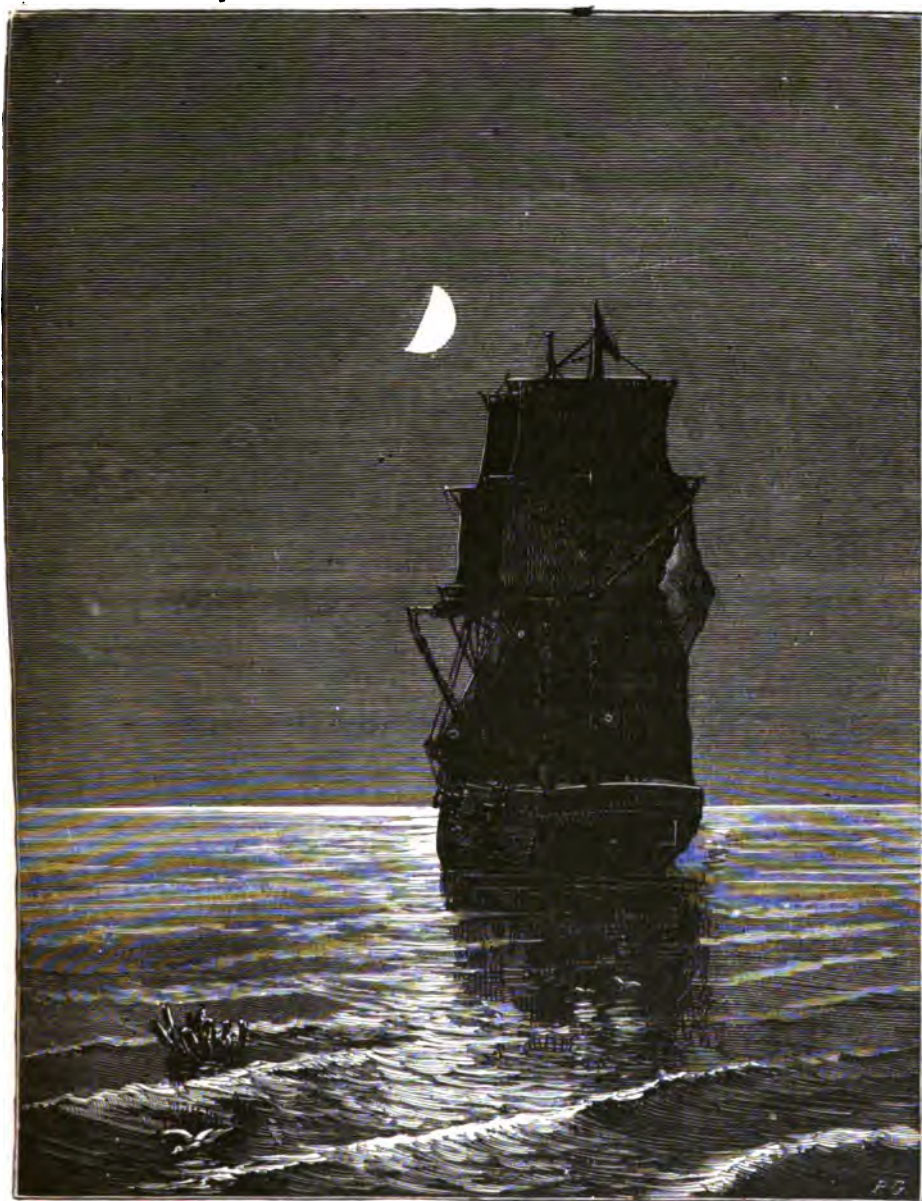
I will only add that our whale went off with the line, and the few things attached to it, and hasn't been seen since, to my knowledge. Bowlegs went to windward as usual, returning on board a little before dark, with the same old story to tell.

And this was the kind of whaling we had on the Crozets; and it naturally made the captain a little cross at times, and it seemed as if a little of his sourness was imparted to his officers and to the crew. We had many a rough pull when it was of no sort of use to chase whales, for if we had got fast to one we could have done nothing with it. We would come on board after a long chase, when it was breezing up, and think we had got all done for that day; but it would not be long till "T-h-e-r-e she b-l-o-w-s!" would come from the lookout at the masthead, and down the boats would go again, just because the captain was "out of sorts."

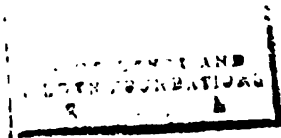
It was a difficult matter to lower a boat and get into it right side up, always. If we tried to get in when it was coming up towards us, it was liable to go the other way before we could reach it, and perhaps we would fall about ten feet farther than we expected to. At least it used to serve me so; and I never could see any sense in lowering at such times, though I never said a word about it to the captain.

One day, when it was blowing unusually fresh, we had returned from a long chase, with nothing, as usual. The captain remarked to Mr. Bowlegs, while the boats were being hoisted up, that he didn't suppose one of the mates cared a fig whether they got fast to the whale or not. He said it in a friendly sort of way, but Mr. Bowlegs felt it, and made reply that he had certainly no reason to think so.

"You needn't talk back to me," said the



MOONLIGHT ON THE WAVE.



captain, sharply; "all you have got to do is just to fasten to the next whale you lower for, or, by thunder, I'll put one of the green hands in your place!"

Mr. Bowlegs understood the folly of trying to carry on an argument with the captain, and the matter dropped. It was about four o'clock in the afternoon. The sky was covered with squally-looking clouds, the white caps of the seas were flashing all around us. It looked as though we should have a rough night. No one thought that we should lower again that day. Mr. Bowlegs had a troublesome beard; it required shaving often, and he never underwent that operation without shedding tears. To console himself, it may have been, after the captain's rebuff, he went down to his little state-room to have a shave. Mr. Bowlegs had progressed to that point where those who have tears to shed begin to shed them, and a little farther. In fact, he had scraped one side of his face, round to a line perpendicular with his nose, the other side being covered with as thick a coat of lather as he had been able to put on. At that point his razor stopped, and he listened.

It was that same familiar cry, — he could not mistake it, — "The-r-e b-l-o-w-s! The-r-e b-l-o-w-s!" He could not mistake it, even though he was down below in his state-room, with his face half covered with lather. What should he do? Before he could decide, there was another cry at the door of the house that covered the companion-way, and he recognized the captain's voice. "Stand by the boats!" it said; and, no longer mindful of the lather, Mr. Bowlegs dropped his razor, and responded to that call.

I well remember how he looked as he rushed out of the cabin and into his boat, which was already going down the side, his face just half covered with lather. We were all pleased, especially when the captain called after him, gleefully, "Go it, Bowlegs; you'll catch 'em this time!"

It was rather hard on Mr. Bowlegs, who was a good friend to me, but I had to laugh. The captain ordered the boats down only to plague Mr. Bowlegs, probably, for it was "no weather for fishing," and he called us back before we were out of hail.

But chasing whales is not the worst part of whaling, to a delicate organization. There is work to do after a whale is alongside — dirty work, in which oleaginous matter accumulates all over you, and over all the ship. There is work, and smoke, and gurry, till the whale is tried out. We have plenty of oil in our hair,

and plenty in our clothes. We take a little inside, also, in the way of scraps, fried steaks of whale's flesh, and, should the captain be generous, fried doughnuts, — just to preserve the equilibrium, as it were. It's wonderful how much oil a whalerman can absorb.

There is an unsatisfying odor, too, that pervades the ship while the boiling is going on. It is not like the sweet smell of spices, or the rich perfume of tropic lands — not at all. It is a smell of burning scraps and boiling oil, and the yet uncooked blubber, so mingled, and so impressing itself upon you, that you never forget it. You cannot escape it; though you go up into the top, or descend into the hold, or enter the sacred precincts of the cabin, — if you have any business there, — you are still in the midst of it. And yet it can hardly reach to the tip end of the flying jib-boom, when the ship is on the wind, and it is blowing fresh; but there is hardly room for a whole ship's crew to sit there at once. Although it is not a pleasant smell, the mates all seem to like it, and the captain smiles sweetest when it is thickest. And all good whalermen endure it calmly, because it gives assurance that their ship is filling up.

Much might be said of whales, but it has nearly all been said before. The whale has points that cannot fail to interest any one who gets very near to him; and the most striking of these, I may say, is the tail, otherwise called "flukes." He has a dangerous habit of lifting it when he becomes aware that an enemy is near; and there is no dodging it when it moves: a dark flash, and it is all over. It is a great deal heavier than it looks to be. You might as well be in the way of a cannon-ball.

I found the tail always interesting when we were fast to a whale; but after we had killed him and were cutting him in, my attention was generally turned to the head. A right-whale's head is so different from all other heads, that one wonders at it. In forming it, the Almighty seems to have designed that this greatest of all animate things should subsist on a kind of food peculiar to itself. Whalermen call it "squid." Probably professors call it by some other name; but whalermen care little about that.

"Squid" is a soft, jelly-like substance found floating in large fields in those parts of the ocean the whale most frequents. To understand how he feeds upon it, we must know about his head; and I will first say that it is very large in proportion to his body. This might lead one to infer that the whale has a large stomach also, which is not the case. In-

deed it is affirmed that a right-whale can swallow nothing larger than a herring; which, if true, would prove conclusively that it could not have been a right-whale that swallowed Jonah.

Instead of teeth, the right-whale has set in the upper part of its mouth, upon each side of a strong bony keel, as it were, slabs of bone — the common black whalebone of commerce. According to a description I have lately seen, "these slabs are from eighteen inches to ten feet in length, shaped somewhat like a blade tapering to a point along the entire length, on one side being quite thick, nearly two inches, and on the other coming almost to an edge, which is fringed with filaments resembling very coarse hairs. The slabs are attached to the palate by their bases, hang down into the mouth, and, from being placed transversely, their edges are parallel and at a very small distance from each other, the base of each, as well as the outer edge, being composed of solid whalebone, while the inner edge terminates in a filament of the fibres mentioned, which fills up the whole interior of the mouth like a curtain set across it."

This description looks a little misty at first; but by reading it over several times, one can get the hang of it and understand it pretty well. If the commas had held out, most likely it would have been made plainer.

When the whale feeds, he simply opens his mouth, and rushes forward till it is well filled, when he closes it and ejects the water, the hairy filament that lines the mouth acting as a strainer to retain all else within it, and then he swallows his food. Repeating the process, he goes on till he has completed his meal, or till something disturbs him, for he is not always allowed to take his dinner in peace.

I would like to give the measurement of some of our whales; but, if I ever made any figures, I have lost them, and cannot do it now. Those we took on the Crozets were small, compared with those I saw on the North-West Coast. I think they averaged about one hundred barrels of oil each, and were perhaps sixty or seventy feet in length, with a breadth of beam of, say eight feet. On the North-West our whales must have averaged near two hundred barrels each. Once we captured two together that made us *over five hundred* barrels of oil. I suppose those were about as large, possibly the largest whales that were ever taken. There was hardly any perceptible difference in their size, and they must have been nearly one hundred feet in length. When secured alongside, they

reached from the bow port of our ship clear past the stern. Monstrous gray old fellows they were.

The whale has some interesting peculiarities. He always runs dead to windward to escape pursuing boats; and it would seem as if he must be guided by something like reason in this, certainly, for it is the very best course he could possibly take. Owing to this, we got many a wet ride; for to be drawn at the rate of twelve or fifteen miles an hour through combing seas, in a small boat, with a taut line keeping the bows well down, is not conducive to dry shirts.

And when a whale dies, they say he turns his head to the sun. Whether this is merely a whaleman's notion or not, I cannot say. I was always thinking of something else about the time the whale died, and forgot to notice where the sun was; but one thing I can safely say: he makes things lively just before he goes. At last the lance has touched a vital part, and the huge victim spouts out the thick red life-blood, crimsoning the water all around, till it is almost gone. Then comes the "flurry." Sweeping round and round in a narrowing circle with fearful velocity, he lashes the blood-red water into foam with his flukes; and woe to the boat that comes in his way. At last his struggles cease; life is gone; and the boats, that have been careful to keep at a safe distance, approach, and taking the inanimate mass that has made such fearful struggles in tow, proceed slowly towards the ship. To be stripped of his blubber and boiled down, is, after all, the pitiful end of one of God's greatest works.



ACROSS THE INDIAN OCEAN.

BY AN OLD SALT.

ST. PAUL. A LITTLE UNPLEASANTNESS, AND
A FEARFUL GALE.

I WAS glad enough to leave the Crozets; especially as I could have no chance of escape from the ship till we should have gone on much farther. Shortly after, it was reported that we were to touch at St. Paul—a lone bit of rock and earth in the very heart of the Indian Ocean. I hoped I should be able to get ashore, even there. With hardly a thought of how I should ever get away, I was determined that if I could set foot on land I would remain there.

Nothing happened worth mentioning till we reached St. Paul, unless it was a gam with a Frenchman; and I am not sure that that is worth mentioning. I remember it distinctly, because of the little French doctor that came on board of our ship, with a little red cap on his head. He couldn't speak a word of English, but he talked all the time, and I got well acquainted with him; which I should not have done if I had lived forward.

Ever since I had lived in the steerage, I had had free access to the cabin; the captain really treating me very kindly, giving me, besides duties to perform, books to read, charts to study, and once in a while a cake to eat. The cakes were some that his wife had made, he said; and they were very nice. He seemed to love to tell me about his wife and daughter,—she was about my age, he said,—and about his new house, that he had built for them—how nice it was, and how much it cost, and how he expected to live there with them himself some time. Just think of such a man going away, to be gone four years, where there were no railroads, steamboats, mail-routes, or anything of the kind! He couldn't expect to hear from his wife and daughter very often. Just think of his telling me all about them, while I sat munching his cakes, determined in my heart to leave him secretly at the first opportunity! I must have been very ungrateful or very homesick. I would rather admit it was the last.

But the little French doctor,—he talked at me, and seemed determined to open communication in some way. At last he caught hold of me, and set me down upon a settee in the house, and almost before I knew what he was about, he had my mouth open, and was inspecting my teeth. He went to work on them, talking all the time, and all I could do was

just to say, "Ugh," in reply. I don't think he helped them much. I had not been conscious of any serious defect in them before, but shortly after I began to have trouble; and it lasted till Mr. Plump took my head between his knees one day, on the booby-hatch, and with a hideous, old-fashioned thing, drew out one of the biggest teeth I had. Of course I shall always remember that little French doctor.

A "gam" is a mutual sort of visit between two ships' crews. One or two boats' crews from each ship go on board the other, and spend an hour or two, or a whole afternoon. These visits are peculiar to whalemens, who often indulge in them while cruising and not otherwise engaged. This Frenchman was a whaler, like ourselves; one of the few of that nationality that we met in the course of our voyage.

We made St. Paul on a cloudy, gloomy day. It was a desolate, dreary-looking place—what little there was of it. It was night before we got very near to it, and we ran off and on till morning. In the morning the clouds looked lighter, but the sky was still overcast, and the lone little isle looked dreary enough. And yet I would have gone ashore and remained there if I could; for I saw a house on the island, which assured me that somebody lived there.

But the captain had no idea of going ashore himself, even. It soon appeared that his only object in touching there was to catch some fish. St. Paul was noted among whalemens for the fine fish that abounded around its rocky shores, and our captain had probably fished there before. As soon as breakfast was over, two boats were lowered,—neither of them mine,—and, being manned by their crews, and the captain besides, were pulled in towards the dark cliffs till they were lost to sight beneath them.

We kept the ship off and on, running in at times directly opposite to the one solitary house that stood at the foot of the cliffs, but saw no living soul upon the island, nor any other sign of one. The house was a great barn-looking structure, and I much doubt whether any one was in it at that time. Although it was such a solitary, forbidding place, I could not but feel disappointed, I was so longing to set foot again on firm land.

Soon after noon the clouds began to draw closer around us, covering the sea with their misty skirts, and shutting us in with the desolate isle, as if it were their will that we should stay. The waters grew dark, though the curling crests of the waves flashed more

brightly, and everything was gloomy and depressing.

We ran in towards the boats and met them, loaded well down with the fish that had been caught. They were fine-looking fish; but for all that, I felt gloomy and disappointed. I had waited long and come thousands of miles for that chance, and now I must go thousands of miles for another; and so much farther from home. The boats were hoisted to their places; the ship kept on her course, steering away into the gloom south-eastward, and we spent the rest of the day in cleaning fish! Thus sometimes end men's hopes — in the mist and darkness here below; but we all know there is a clear sky above.

In a few weeks after leaving St. Paul, I was as far from home as I can ever be in this world. We crossed almost our exact antipodes, our course carrying us to southward of Tasmania, — Van Diemen's Land, as it was then called, — so as to strike the most southern point of the New Zealand coast.

While making those long runs from point to point of our weary voyage, the time passed very monotonously. The most trivial incident became interesting, and any occurrence out of our usual dull routine was a thing to be remembered. A little trouble had been brewing with the steward, which culminated about the time we reached our antipodes, and which I will not pass over.

I have already explained that the steward was possessed of a great deal of unattractiveness externally, and, unfortunately for him, he took no pains to counteract any false impressions his outside appearance might produce. He was not suave. His smile was always a gloomy one, and evidently, judging from the cast of his eyes, not intended for you. When he spoke to you, he looked at the mainmast with one eye, and off the starboard beam with the other. Such a man could never have much success in making love, especially with other men, and he was never in high favor with the "people" forward.

But worse than this, he was saving; and he saved for the ship's interest, — or rather for the owners. Or it may have been for neither, but because it was so natural for him to save. He had charge of the cabin stores, and of all except the fundamental articles of diet that were to be allotted to the people. The tea, coffee, molasses, dried apples, all came through him, and were savored with his stinginess. The people murmured, and looked upon the steward with evil eyes. The coffee, especially, was so weak, that their complaints

could not fail to reach the steward's ears, though he seemed to heed them not. Thus it was forward; and when I went to live in the steerage, it was still more so there. The cooper threatened vengeance on "that nigger" every morning, when the coffee came down.

The doctor, — that is, the cook, — who was as generous hearted as the steward was stingy, had attempted to show the cabin functionary the injustice of his course, venturing to speak in behalf of the people. The steward would listen in impressive silence, till the doctor was all through, and then reply with dignity, —

"Doctor, dese people don't no when dey's well off. Dey gets good libin' — all dat b'longs to um, and den dey wants more. I tells ye, doctor, it's no use talkin'; dese folks can't pre-shate it."

And then, with his eyes turned heavenward, as nearly as he could get them, he would shamble aft again, his hands filled with good things for the cabin table.

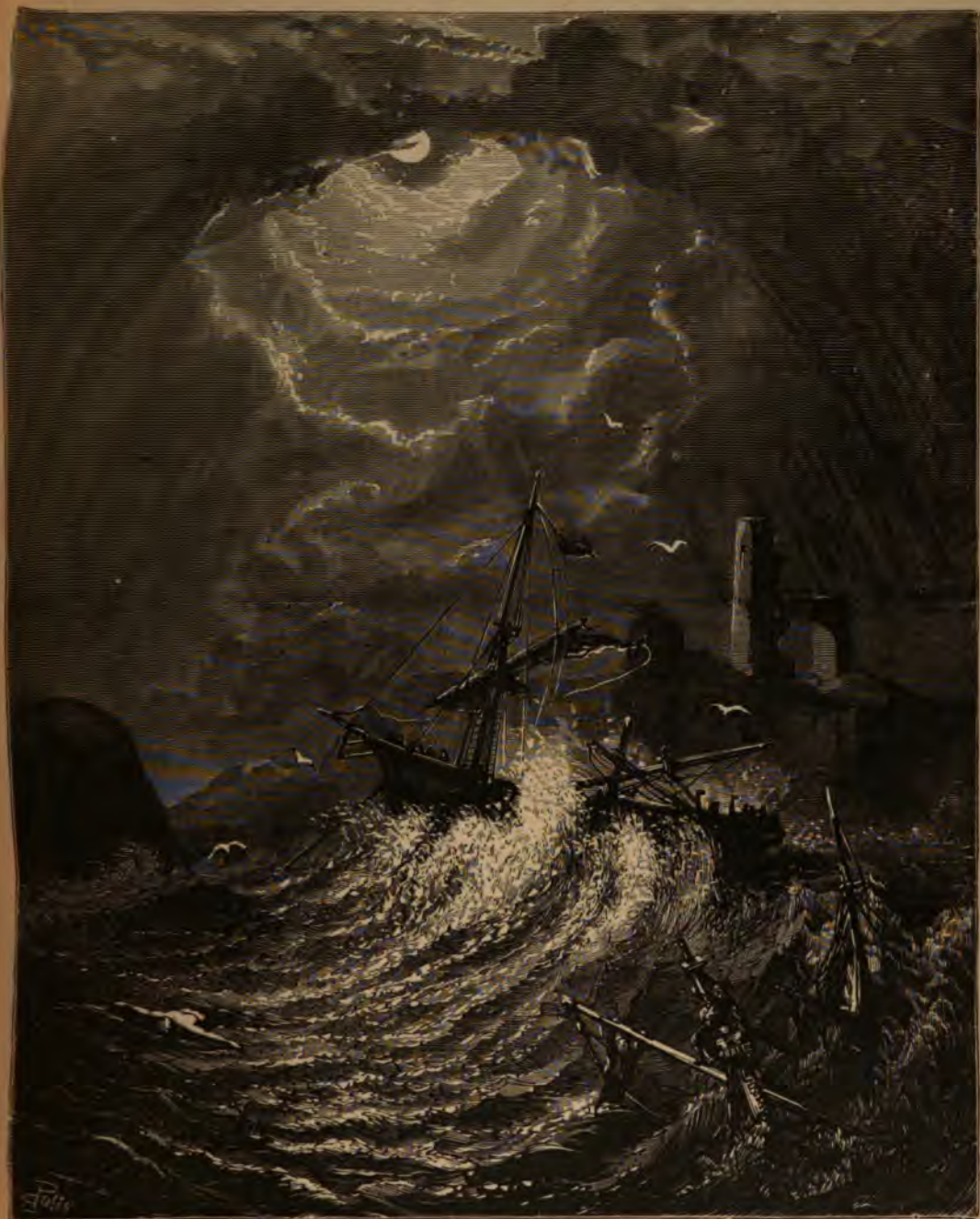
This continued till Bungs, for one, thought endurance no longer a virtue. One day the doctor reported a remark of the steward's to this effect: —

"You knows, doctor, dat what we's got to do, is to do our duties; an' you knows, too, doctor, dat our duties is to take care ob de perwishuns, — what's in de ship. De tea and coffee b'longs to de owners, an' *I sall use um 'cordin' to de bess ob my judgment!*"

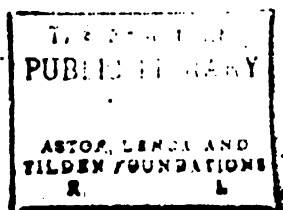
Then Bungs, forgetting to whom vengeance belongeth, took a solemn oath that he would have it himself; and the steward was made to feel the weight of his wrath the next morning, the coffee being at that time unusually weak. He filled his pot from the bucket, after I had set it down upon the deck in the centre of our little apartment, and tasted it. His visage lowered, and he set the pot down upon his chest. Without uttering a word, he rose and took up the bucket and went to the foot of the steerage stairs, where he silently waited. Soon he heard the well-known shuffling feet of the steward, as he passed the hatchway going forward to the galley. Then, with the bucket in his determined grasp, he darted lightly up the steps, and sprang after his victim. I was just in time to see the bucket come down with crushing force, apparently, upon the steward's head.

But he did not fall. Instead, he took two or three quick steps forward, and then turned, with an astonished look, and asked solemnly, —

"Who hit me wid dat bucket? Bress me,



THE EQUINOCTIAL.



cooper, was dat you? Wha' for you go spoil de bucket in dat way?"

The bucket had rolled into the lee scuppers, evidently in a damaged condition.

"Never mind the bucket, darky. I ought to have known better than to smash it on your confounded pate, of course; but mind ye, I'll use the adze next time!"

"What's I done, cooper? What's you got 'ginst me? I allers does my duties — don't I?"

"I say, old squint, we won't have any trouble; but if you don't give us better tea and coffee, and a full allowance of all that belongs to us, I'll let daylight into you in some way; mind that!"

It was a plain way of putting things, but it had the desired effect. We had better coffee, — at least it was thicker and blacker; and it was evident in other ways that the steward's liberality had been much enlarged by the cooper's treatment.

It may seem that the proper way in this case would have been to go to the captain, and request him to remedy the matter. Though I do not know that any direct complaint was made to him, he heard of the trouble through the officers, and it was understood from them that he preferred that the men should settle it with the steward themselves.

After this affair we had little to enliven us for a time. The next thing I remember of interest, was a gale we experienced off Van Diemen's Land. A gale at sea is nothing unusual, and of course we had experienced more or less of what might be called gales before reaching Van Diemen's Land; but the one we there encountered was really frightful.

It was a cold, gloomy morning when it began to blow. The sun shone dimly when it rose, but was soon wholly obscured by thick, fleecy, driving clouds. We began to take in sail, stowing and reefing as the gale increased, till there was nothing exposed but a close-reefed fore-topmast, main-topsail, staysail, and main spencer. It seemed then as if old Æolus was doing his best to drive us from the very face of the deep. Yet the gale increased, continually, till by midday its force was terrific. We were awed by it, but had our dinners nevertheless, the captain saying it would be better to go down with full stomachs.

The captain did not give much time to dinner, however, and after it was over, he stood constantly at an open window in the house, watching the main-topsail. We had already attempted to get in the spencer. The ropes had been manned, that it might be brailed up quickly, and the outhaul was slackened care-

fully; but the instant it began to yield, like a flash, and with a tremendous crack, the sail was driven against the shrouds, pressing between them so firmly that all our strength could not remove it. Every moment we expected to see the topsail torn from the yard, or the yard carried away; but everything held, and the afternoon passed without accident.

The seas were not high, for the pressure of the wind kept them down; but the ship was tossed by the very force of the gale, quivering and plunging in a way that most of us had never seen before. The ocean was ploughed into furrows of foam, and the air was filled with driven spray.

The gale raged with the same fury through the day, and when night came, it seemed more terrific, if possible, than before. The thick driving clouds shut out all light but the fitful flashings of the foaming sea. The winds shrieked above, and the strong timbers creaked and groaned below. At times the deep surging of the ship would cause the bell upon the fore-castle to strike a dismal note of warning, as it were, of our impending doom. It was a fearful, and besides, a very uncomfortable night; for we were wet, stiff, and chill with the driven spray.

Through another day, and till the middle of another night the gale raged, though not with the same fury as at first. During the second day the sun's rays reached us occasionally, though they seemed always to have been almost spent in struggling through the clouds, and in a little while would fade out and be gone. The seas rose higher as the wind abated, so that our danger was increased rather than diminished. Before night of the second day, the great rolling waves were frightfully grand. It seemed as if the ship would certainly be covered and go down beneath them. Their shocks made her strong frame tremble; and she would stagger, and go down, as if it were her last struggle, but always rise, to breast them again. At times the yard-arms would dip, and the ship go almost upon her beam-ends; but the huge wave would lift her high upon it, and rolling on, she would sink again to meet another.

On the second night of the gale it came my turn to stand at the wheel for two hours, — from ten to twelve it belonged to me to steer. Of course there was little steering to do, yet I was not allowed to be at the wheel alone on such a night. Phil Southwick, an old seaman, went to stand my trick with me, to keep the spokes from being wrenched out of my hands, and be responsible for what might hap-

pen. It was not a bad place to be, for it was the driest part of the ship, and the light from the lamp in the binnacle looked cheery.

"Ease her when she pitches," said Mr. Bowlegs, as we took our places; and with a confident 'Ay, ay, sir,' Phil gave him to understand that he could trust us.

But we could not save her with all our easing. At last, just before the watch was out, a tremendous sea fell upon her bows, throwing her head off suddenly and covering the deck with water, and the next moment another struck upon her starboard quarter, lifting the stern so high and so suddenly that the binnacle was capsized and went crashing to leeward, and there was what sounded like a grand smash of crockery in the direction of the steward's pantry. Besides, the starboard quarter-boat was crushed up under the davits and broken completely in two.

It was very dark for a time; but Mr. Bowlegs found his way to us, and wanted to know "what in thunder we were about," just as if we had done it on purpose. We heard the captain's voice, too, inquiring who was at the wheel.

"It's me and Eph, sir," said Phil; and the captain knew as much about it as before. Mr. Bowlegs got another light, after a while, and then we could see each other, and what had happened. By the time the extent of the damage had been ascertained, and the binnacle righted and again secured in its place, our watch was out, and we were relieved from all further responsibility.

Nothing more serious happened, and by daylight next morning the danger had passed. The sun rose in a clear sky, there was only a gentle breeze blowing, and the seas were rapidly subsiding. The only damage we had sustained was the stoven boat, and the parting of one or two futtock-shrouds under the main-top, — though, perhaps, I ought to include the steward's crockery, which, although the pieces were greatly multiplied, suffered no small loss.

But a ship with which we had kept company all the way from the Crozets was less fortunate. We had seen her several times during the first day of the gale, like some dim phantom craft driven by the storm, but had wholly lost sight of her before the first night, and did not see her again till past noon of the day after it had cleared. We were then running on our course with nearly all sail set, when the "Luminary" was raised, off our beam to southward; the course she was steering evidently converging with our own, and bringing us nearer together. The captain brought out his glass, and having looked at

her for a moment, said they were in trouble. The ship's colors were set, but were only half-mast, and they said as plainly as could be, that something was wrong. We kept off; and the other ship's course being also changed, we drew nearer together.

Upon coming within hail, we learned that five men had been washed overboard from the Luminary's decks, by a sea that had swept them. The same resistless wave had swept the whole five away, and in the darkness of night they had been swallowed up. It was a fearful fate, and our spirits sank at the intelligence. The ship itself had sustained no serious injury; and, after a short visit from our captain to his brother skipper, we went on together as before.

At night, when we sat together in our dimly-lighted apartment and spoke of what had happened, the carpenter thought it was a great wonder we had not all gone down in that dreadful storm.

"If I had known they ever had such times at sea," said he, "I would never have come."

"Never mind, Chips," said Bungs; "we'll get you home all right yet; only keep a stiff upper lip, and lay low when it blows."

"I'll tell you what it is," said Smut; "as a general thing, folks live too long. Now, if Chips could only be taken off in this way, it would be better for him, probably, and the rest of us would get along just as well."

Chips looked at Smut gloomily, and made no reply. But Bungs remarked, reflectively, —

"After all, it can't make a great deal of difference how, or when, provided we do our duty here."

"That's it," says Smut; "*if we do our duty here.*" And he looked hard at Chips.

"I've done the best I could," Chips replied.

"Ay, Chips, I reckon you have; but you made an awful mistake when you undertook to do carpenter's duty in the Old North. However, we're all liable to mistakes; and as long as *they are* mistakes, I reckon they won't be set down against us. I can't say I wish you any harm, Chips. Just keep a stiff upper lip, as Bungs says, *and do the best you can*, and you'll come out all right at last."



HYDRAULIC MINING. Page 172.

GOLD MINING.

BY CHARLES A. HOYT.

UNLIKE silver, gold is usually found in a native state, though it sometimes occurs combined with some of the rarer metals, and as an amalgam with mercury. But, commercially considered, these ores and alloys are so rare as to be of no practical importance, and are not depended upon as a source of the precious metal. It is found in veins which are very similar in general character and structure to those containing silver ores; but the gold is either disseminated through a gangue of quartz, or is associated with iron and copper pyrites. Many of you have seen pyrites. It is, you remember, a yellow, brassy-looking mineral, composed of iron and sulphur (iron pyrites), or iron, copper, and sulphur (copper pyrites). The two minerals can be easily distinguished, as the former is much whiter than the latter, which is quite yellow, and has often been mistaken for gold; hence it is sometimes called "fools' gold." Pyrites is of common occurrence all over the country, but does not by any means always contain gold, though in the Rocky Mountains, and west to the Pacific coast, it invariably carries more or less of it. That which you have seen, however, appeared exactly like that

which has gold in it, for this metal is very rarely visible. When the gold is in quartz more or less free from pyrites, it occurs in thin plates, threads, and grains, often making very pretty specimens, some of which are used for pins and watch-charms. But in a great deal of this gold-bearing rock you would not be able to detect an atom of the metal, although it might pay handsomely for working.

Galena and zinc-blende are occasionally present in gold lodes, though less frequently than pyrites.

These ores, like all others, vary greatly in richness in different veins and localities. Some are profitably worked in California which yield only five dollars to the ton. To make so low a grade of ore pay, it must occur in large quantities and be easily mined; but ores which yield in the stamp mills ten dollars per ton are very frequently quite remunerative. Those which carry upwards of forty or fifty dollars per ton are considered rich, though ores are often found very much richer. When you remember that a Troy ounce of gold is worth twenty dollars and sixty-seven cents, coin value, and that there are twenty-nine thousand one hundred and sixty-six of these ounces in a ton of two thousand Avoirdupois pounds, you will realize what a minute quantity of the mass treated is really saved. For instance, in a ten-dollar ore, only seventeen

one thousandths of one per cent., or one fifty-eight thousand three hundred and thirty-second part of the ore, is obtained as a final result. It seems hardly possible that any ores can be profitably worked to secure so small a portion of them.

Most of the gold-bearing quartz is crushed in "stamp-mills," where it is pulverized under large iron stamps, weighing from four hundred and fifty to seven hundred pounds each. After it becomes quite fine it is carried away from the stamps by a stream of water over long, thin plates of copper, which have been coated with a layer of mercury or quicksilver. The mercury has such an affinity for gold, that it catches and retains all that comes in contact with it, forming an amalgam. This amalgam is scraped from the copper plates, and heated in a sort of iron crucible having a cover. The heat drives off the mercury, which is carried by a pipe connected with the cover of the crucible, or retort, as it is called, under water, where it is condensed, and is ready to be used again. The gold remains in the retort in a metallic state. Some of the richer ores, especially when much copper pyrites is present, are smelted, and the copper, as well as the gold, saved.

The mining of gold in veins is conducted in the same manner as for silver; and having already told you, in a former article, how that is done, it is unnecessary to repeat the process here.

Although large amounts of gold are now obtained from veins, or lodes, far more has been taken from "alluvial deposits." The lodes, having been exposed for ages to the action of the atmosphere, the gnawing of the frost, and the wear and tear of streams, have been slowly worn away, and the quartz and ores broken into fragments, ground up into gravel and sand, and carried by mountain torrents far away from their source, to be deposited in gulches, valleys, and on plains and hill-sides, over which the water once ran, or stood in lakes. Gold, being one of the heaviest metals known, — nearly double the weight of lead, with which we are accustomed to compare all heavy substances, — sank more rapidly than the rock and mineral which accompanied it, and found its way to the bottom of the lake and river basins over which it was conveyed. In this manner vast amounts of gold have been scattered throughout the valleys and plains near the mountainous regions in which the veins abound; and it is from this source that most of it is taken. It always exists there as native gold, and has to

go through no complicated process to be obtained in a metallic state.

From this fact, and from its early mention in the Bible and all ancient writings, we may safely conclude it was one of the very first metals known. It has been generally believed for a long time that the ancient Ophir, from which King Solomon brought so much gold for his famous Temple, was located somewhere on the south-eastern coast of Africa; and recently some who profess to be wise in such matters claim that the new diamond fields of that country are the site of that long-sought land, as gold is found in the vicinity, as well as evidence of former workings.



Placer Mining.

The gold in the alluvial deposits is usually found next the "bed-rock," that is, below the soil, lying in a thin stratum of sand or gravel upon the rock which underlies, and occurs there in the form of grains, varying in size from fine sand to that of a small pea, in thin plates or leaves, and in irregular nuggets. Some very large nuggets have been found. One was discovered in Australia weighing one hundred and eighty-four pounds, which yielded over forty thousand dollars. California has produced some big ones. But the largest ever found came from Australia, and was known as the "Sarah Sands." It weighed two hundred and thirty-three Troy pounds. Of course these great nuggets are very rare, as one weighing an ounce or two is considered of good size. This native gold is never quite pure, being always alloyed with a little silver; and occasionally a *very small* quantity of copper and iron is present.

In places the soil — boulders, sand, and gravel, termed alluvium, or alluvial deposit — is over two hundred feet deep, while in other

localities it is but a few feet thick. The object of mining in these deposits is to separate the gold from the dirt and gravel, and collect it by itself. This is called "placer mining," which is also subdivided into deep and shallow, and into bar, gulch, hill, and river mining, according to the situation in which the gold is found; whether on bars or flats formed by streams, in narrow ravines or gulches, on hill-sides, or in the channels of living rivers.

Various methods of securing the gold are used; but they are all based on the great specific gravity of the metal, which causes it to sink rapidly in water, while the lighter rock and soil are carried away by the current. The simplest and oldest of the contrivances for separating the gold and the worthless dirt is the "pan." This is merely a sheet-iron vessel, about the size of the large milk-pans you have seen, but with its sides sloping much more

along the angle formed by the sides and bottom of the pan. This is called "panning;" and an expert panner can detect the gold when there is only a few cents' worth present.

In the early mining days of California, the "cradle" and "long-tom" were generally used. The former of these is shown in the illustration, and can be briefly described as two boxes, one placed above the other, the lower one supported by rockers, like those on a child's cradle. The bottom of the upper box is of sheet-iron, full of small holes. Into this box the dirt is put, and water poured over it, while the whole is rocked to and fro. The finer dirt and the gold are washed through to the lower box, from one end of which the water flows off. Across the bottom of this box narrow strips of board, termed "riffle-bars," are fastened, and the gold, settling to the bottom, is caught behind them, and is removed from time to time. Fresh dirt is constantly added to the upper box, and whatever does not go through the holes in the bottom is thrown out by hand.

The long-tom consists of a rough wooden trough about twelve feet long, placed with one end considerably higher than the other. Across the lower end is a piece of sheet-iron, with good-sized holes in it, to keep the larger pebbles and rocks from passing through. A stream of water is introduced at the upper end, and dirt is shovelled in and kept constantly stirred about, so that it may be thoroughly disintegrated. The water carries all but the coarse gravel through the sheet-iron screen into a long trough below, in which riffle-bars are placed to retain the gold. Sometimes quicksilver is introduced in the riffle-box, to aid in catching the precious metal. Both the cradle and long-tom are imperfect and slow, so that they are now but seldom used, being replaced by sluices and hydraulic mining.

Nearly all the gold now obtained by placer mining is saved in sluices. These are of various sizes; the smallest are long, narrow wooden boxes, without end-pieces or covers, through which water is kept constantly flowing, and into which the dirt containing the gold is thrown. Each box is provided with riffle-bars, which retards the water somewhat, and allows the gold to sink behind them. These boxes are about twelve feet long, and from twelve to eighteen inches wide. One end is a little wider than the other, so that another box can be fitted to it, and thus a long line of them made, often hundreds of feet in length. A large amount of dirt can be washed through them each day, so that



The Cradle.

This is filled with the dirt, or pulverized quartz, which it is desired to test, and then dipped under water, while the mass is stirred and softened by the hand. The pan is then taken from the water, and a gentle shaking and rotary motion is given it, as the water is carefully poured off. The motion causes the larger pebbles to come to the surface of the dirt, from which they are then removed. By repeatedly filling the pan with water, and giving it the proper motion as it is poured out again, all the dirt and gravel are washed away, finally leaving the gold in a long, thin layer

very poor ground can be profitably worked by using them. A number of men can add the dirt, while one or two are employed in throwing out the larger boulders which may find their way in. Instead of having wooden riffle-bars, the bottom of the boxes are sometimes compactly paved with small pebbles, and the gold is caught in the interstices. Mercury is almost always used to save the finer gold, which would otherwise be carried away by the water. Frequently the sluices are not cleaned up for a week, while others are cleaned every day, depending on the richness of the ground worked, and the honesty of the neighbors.

You would not care to hear in detail the various ways in which the sluice-boxes are used; so we will pass at once to hydraulic mining, which is of more importance.

It is often necessary to remove immense quantities of soil and gravel before the pay-streak is reached, which it would be impossible to do by hand. Hydraulic mining accomplishes this quickly and cheaply. By means of long ditches and flumes, water is conveyed into large tanks, which stand high above the place where it is to be used. From these tanks the water is carried through large canvas hose to the desired locality, and directed against the bank or hill to be washed away. By having the tanks so high, a great pressure is obtained, and the water is thrown through the nozzle at the end of the hose with immense force. It is like the stream from a steam-fire-engine, only very much more powerful. Several streams are used at once, and you can hardly imagine the amount of work they accomplish. High banks and large hills seem to melt before them, so rapidly are they borne away.

All the soil and debris are carried into large sluices by the water. These sluices are often six or seven feet in width, and are very long. They are paved with sections of large trees, or with stones, and the gold settles in the spaces between them. They have to be very strong and durable, as boulders weighing several hundred pounds are often carried with the stream. You would not suppose that much of the gold would be caught in such rude and imperfect contrivances as these sluices appear to be; but they answer the purpose very well; and, as I have before said, nearly all the gold is saved in them which is obtained from placer mines. There was a gravel bed in California made to pay quite well by hydraulic mining, which yielded at the rate of only three cents per ton of gravel. Over four thousand tons were washed down

each day. This is the poorest dirt ever made to pay, I believe.

Large sums of money have been expended in getting water for hydraulic mining. The ground to be worked is often so high above the neighboring streams that the water from them cannot be made available; so it has to be brought long distances in ditches and flumes. A flume is merely a wooden trough, usually supported on trestle-work, and is used to carry the water over deep valleys and ravines. One of the illustrations to this article shows a flume belonging to one of the main ditch companies of California. The aggregate length of the ditch, with its side-branches, is over two hundred miles, and its cost was about one million dollars. There is another company in that state which has a ditch that has cost six hundred thousand dollars. These companies sell the water to the miners, and make a great deal of money by the operation.



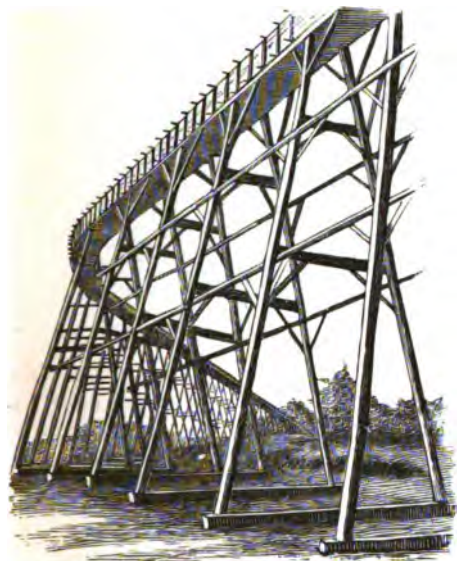
Sluice Box.

In some places, where a number of parties are mining, and where the sluices used by them fail to save the greater portion of the gold, a long line of large sluice-boxes is erected lower in the valley, and all the water from above is carried through them, and thus a good part of the remaining gold is caught. These are called "tail-sluices."

Sometimes small rivers are turned from their regular channels, and their old beds worked over by the indefatigable miners. This is called river-mining, and is very uncertain, though it often pays extremely well.

Gold has also been found in paying quantities in some of the sands of the Pacific coast. It originally existed in the sandstone rocks of that locality, and these, having been worn away by the waves, have left the gold on the beach. This is collected at low tide and carried away to some neighboring stream, and washed in a cradle or long-tom.

But enough has been written to give you an idea of gold-mining in its various branches, so that I will not tire you by entering into further details. It is, on the whole, a hard and laborious business. Years are sometimes spent by the miner in getting at some particular point in a favorite locality, where he expects to obtain a golden harvest; but often he finds that all his labor has been in vain, and the gold has existed only in his imagination.



A Flume.

Rivers are successfully turned from their course, after much trouble and expense, and the happy workmen think that on the morrow they can begin to realize the fortune they feel is in store for them. That night, perhaps, a storm rages far up among the snow-covered mountains, and the tiny stream is in a few hours swollen to a mad, resistless torrent, which tears away the petty dam, and in a moment effaces the work of months, leaving the miner nothing but his golden visions and a lost summer to reflect upon.

A report comes in that in a remote corner of some distant wilderness gold is being found in fabulous quantities. The miner, always seeking something richer than he possesses, hurriedly packs his few traps and tools, and hastens away to the new land. After a painful and dangerous journey, filled with hardships and privations, he reaches the promised land only to find once more that the old maxim, "Green fields are ever in the

distance," has been verified. He has but to make his way back, a sadder and a poorer man.

Such are some of the dark sides of a miner's life; but it also has its brighter features. Dams are not always carried away, nor tunnels driven in vain, nor journeys always fruitless. Large fortunes are sometimes quickly made, and the poor, ragged miner is transformed into the revered and respected capitalist. A few square yards of earth have made many a miner's fortune. But those who embark in mining with the idea that they will acquire wealth without hard work, and without years of patient perseverance, will generally find themselves sadly mistaken. Perseverance and industry are more necessary in mining than in almost any business known. And you will find, my kind readers, whatever pursuit you follow, that these are the requisites for success, and without them you may as well look for gold in Plymouth granite as to hope for fame or fortune.





MINERS AT WORK.

SILVER MINING.

BY CHARLES A. HOYT.

LONG ago, when gold and silver, in the shape of coin, were more common than now, I used often to wonder where and in what condition these metals were found. I was told they were "dug" from the earth; but this reply was never very satisfactory, nor did it throw much more light on the subject than I had before. Perhaps it is the same with some of you, so that it may be interesting to know how they occur, and the way they are mined. I will try to tell you. As I am writing from a region where silver is found, we will give our attention to that metal first, and perhaps at another time I will give you some facts about gold mining.

Silver is seldom found in large quantities in its native state; that is, it is usually combined with other metals and earths; although it is said that a mass of silver was discovered, many years ago, in one of the mines of Germany, from off which the king and all his court ate their dinner. This is a rare exception, however, for almost always it occurs as an ore. The richest silver ores are sulphurets of silver, that is, silver chemically combined with sulphur; and chloride of silver, or silver united with chlorine. There are many varieties of the former ore, where other metals accompany the silver. Lead,

copper, arsenic, and antimony are most frequently associated with it in this way. Probably most of you have seen galena, the principal ore of lead, which is simply that metal combined with sulphur. There is scarcely any of it which does not contain more or less of silver; and, indeed, a very large portion of the silver produced is derived from lead ores.

The ores vary greatly in richness, some containing only a few dollars' and others several thousand dollars' worth to the ton. A pure chloride of silver contains over twenty-eight thousand dollars, and some forms of sulphuret ores over thirty thousand dollars in silver to the ton of ore; though they are not found to any extent in a pure state, but are mined with other ores, rocks, and earthy matter. In the old world, where labor is very cheap, ores carrying from twenty to thirty dollars a ton can be worked at a profit. But here (Colorado) silver ores containing much less than eighty dollars a ton cannot at present be worked, owing to the high price of labor and supplies. Of course, where there is much lead present it can be saved too, so that such an ore need not contain as much silver to be mined profitably. But I may be tiring you by saying so much about the ores; so we will now see how and where they are found.

They always occur in veins. By a "vein" I

mean a fissure, or immense crack, in the earth's crust, of great depth and length, but varying in width from a few inches to many feet, which has been filled with the ore and rock. The rock filling these fissures or cracks is usually different from that surrounding it, and is called "gangue-rock." The sides of the vein are termed "wall-rocks." Sometimes these veins are perpendicular, and others slant, or "dip," as it is called, so much that one can walk down them when opened by mining. You may ask where the silver came from to get into these fissures. That question has puzzled a great many wiser heads than yours and mine, and has not yet been definitely answered; so we will not try to solve it here. Let us be satisfied to find it in the veins, without troubling ourselves just now as to its origin.

Some veins are soft and easily worked, and others are as hard as granite. There are very few indeed which can be worked without blasting. The ore is sometimes scattered through the gangue-rock, and at times it occurs as a little vein by itself, enclosed by the gangue, and varying greatly in thickness, being at one place, for example, six inches thick, and at another point, only a few feet distant, but an inch, then, a few yards deeper, a foot thick, and so on. If you should take a very uneven sheet of lead, at some points very thick and at others quite thin, and place it on its edge in a large, thin, but deep box, such as large panes of glass usually come in, and should then fill up on each side of the lead with sand, you would have quite a fair representation of an ore vein, or "lode," in which the lead would be the ore, the sand the gangue, and the sides of the box the wall-rocks.

But the wall-rocks are never as regular and smooth as the sides of the box, but often come close together, almost cutting the vein off; then again they bulge out like a sail in a gale of wind, making the vein very wide between them. Thus, you see, an ore vein is very irregular, here rich and there poor, narrow in one place and wide in another. When a lode becomes pinched and without ore, it is said to be in "cap." These "caps," or pinches, are often extensive, and are great obstacles in working a mine.

Some veins can be traced along the surface for miles, and others can be followed for but a few hundred feet. In Europe there are silver mines which have been worked to a depth of three thousand feet, and as yet no bottom or end found. As to the width, they vary greatly, as I have before said. In this vicinity their

average width is from three to six feet. In Mexico there is a famous silver mine which is in some places seventy feet wide; and the Comstock lode of Nevada is often over one hundred feet in width, and at other points only a few feet.

The ore in some veins is rich, and in others poor, and it also varies greatly at different localities on the same vein. Lodes are generally found in mountainous regions, where earthquakes and volcanoes formerly prevailed, and in the same districts they usually have the same course or direction.

Having learned how the veins most frequently occur, we will now see how they are worked. I will describe mining as it is conducted here; for, although each locality has its peculiarities, the general principles of mining are the same everywhere.



Vein of Ore.

The first thing to be done is to sink a shaft, which is a sort of well dug on the vein. It is from eight to twelve feet long, and about four feet wide, with the corners square, and is sunk as nearly perpendicular as it can be and yet follow the ore vein. Until the solid rock is reached the shaft is sunk with a shovel and pickaxe, after which it becomes necessary to blast. Pieces of round steel, about an inch in diameter and from one to four feet long, sharpened at one end like a cold-chisel, are called drills. These, with a hammer weighing from six to eight pounds, are the principal tools used in blasting. Our shaft is down to the solid rock, we will suppose. One man now takes a short drill and places its sharpened edge on a suitable part of the rock; another seizes the hammer with both hands and strikes the head of the drill, lightly at first, until the hole is fairly started, and then with his full

strength. The one holding the drill turns it partially around between the strokes, and thus it cuts its way into the rock, making a hole a little larger than its own diameter. When it is a few inches deep, water is poured in to make it bore easily. From time to time the fine rock is scraped out with an iron scraper, and the drill is changed as soon as dulled. The hole is usually sunk from two to three feet, when it is ready to load. It is now carefully cleaned and dried. A piece of fuse, a little longer than the hole is deep, is inserted and held on the upper side of the hole. A few inches of powder are added next, then fine dirt is pushed down with a stick until the powder is covered several inches deep, when more dirt is put in and forced down by an iron bar, under light blows from a hammer, until the hole is filled. This latter part is called "tamping." The fuse is lighted, and the men retire until the powder is exploded. Sometimes it fails to go off, in which case the tamping has to be drilled out and a new charge



Head of Drift.

inserted. This is very dangerous, as often, while it is being re-drilled, the powder takes fire. Many a life has been lost in this way. Occasionally, too, the powder "blows tamping;" that is, blows out the dirt from the hole without breaking the rock, in which case a new charge is put in and more carefully tamped. But our shot was successful, and broke a good quantity of rock, which the men are clearing away, so that they can start another hole.

Thus they will keep on until the shaft is about ten feet deep, when a windlass will be necessary to raise the rock with. The windlass has a crank at both ends, and has an inch rope around it, to which is attached a bucket made of a half barrel. With this the shaft can be sunk about one hundred feet, when an engine or a horse will be needed for hoisting the rock and water, as nearly all mines are wet, from the water leaking through the crevice from the surface, and sometimes springing up from below.

This drilling you will think is slow work. So it is, as it often takes two or three hours to drill a single hole. At first you would hardly care to hold the drill while another was striking; but the miners are very expert, and seldom miss their stroke. Sometimes two strike; and in some countries the miner holds the drill with one hand and strikes with the other, which is called "single-hand drilling." In the latter case the steel and hammer are both smaller than those I have mentioned.

When the shaft is about sixty feet deep, "drifts" are started. These are galleries high enough for a man to walk in, and about four feet wide (depending on the width of the vein), following horizontally along the lode each way from the shaft. As they increase in length, the broken rock is wheeled back to the shaft and raised to the surface. When the drifts are in far enough from the shaft, work is resumed there, and it is sunk another sixty or a hundred feet, where two more drifts are started, the same as the ones just described.

You may ask what is the use of the shaft and drifts, as they cannot produce any great amount of ore. Well, they cannot. Some, of course, has been taken out, but the work thus far has probably cost more than the ore is worth. We have only been getting ready to work. Now we can begin to "stope" (pronounce the *o* long). I don't know whether I can make you understand what "stopping" is, but I will try.

In sinking the shafts and running the drifts, we have, you remember, followed the ore vein, so that as you stand in the former the ore is in the bottom and each end of it, and in the drifts is over our heads and under our feet. Now you can see that it will be a great deal easier to break down the vein above the drift, than it was to open the drift itself. That is called "overhand" or "back stoping." If we should drill a hole in the floor of the drift near the shaft, you see the powder would have a good chance to throw the rock out into the shaft; this is called "underhand stoping." We will only attend to "back stoping."

The drifts are now quite long, and we can begin to take out ore in paying quantities. We will put the men at work where the drift starts from the shaft. They will blast down the rock over the drift for a space six or seven feet high, and about as wide as the drift itself. All of the broken rock will fall into the "level" (same as drift), be wheeled out to the shaft, and from there raised to the surface. Thus the two miners will be cutting a new drift. you might say, over the old one, or making the old

level twice as high as it was at first. Meanwhile the drift is being carried along, too, the end of it, or "heading," being so far in advance of the stope that it is not interfered with by those who are working the latter.

Let us suppose that the men on the stope have now gone about thirty feet from the shaft, so that it is time to set two more at work above them. But we must first prepare for it. Small holes, or "hitches," are cut in the walls each side of the drift, high enough for a man to easily walk under them. These hitches are as nearly opposite one another as possible, but those on one wall are higher than those on the other, and on each wall they are about four feet apart. Stout logs, about a foot in diameter, are now tightly fitted into these hitches, from wall to wall, across the drift, and smaller logs, about twelve feet long, are laid lengthwise of the drift, upon these cross-pieces; thus making a roof for the gallery and a floor for the stope. The cross-pieces are called "stulls," and the ones lying upon them are known as "lagging." Now we are ready to work two more men on the stope. They will also commence at the shaft, and blast down the roof of the stope for about six feet in height, following those who have just preceded them; but instead of the broken rock falling into the drift it will fall upon the stulls and lagging recently put up. Here it will be looked over, and the ore thrown into the drift and then taken to the surface, while the worthless rock will be left on the lagging. Timbers will be put in so that no rock can fall from the stulls into the shaft. Holes are left in the lagging where the ore can be thrown down to the drift.

Now that part of the vein lying between the first gallery and the surface can be stoped out, the rock being left on the stulls, which, when properly put in, will support an enormous weight, while the ore is raised to the surface. Meanwhile the shaft has been sunk on, new drifts run, and stoping carried on throughout the mine as fast as possible. The shaft and drifts are to explore the vein and to open stoping grounds, as by stoping much more rock can be broken, and more ore taken out, at the same expense, than from the shaft or galleries.

I forgot to state that at about every ten or twelve feet in depth — sometimes oftener, depending on the nature of the wall-rocks — stulls are put across each end of the shaft, and timbers resting on these are laid along each side of the shaft. By means of plank

and timbers stretching from one set of these timbers to the next set below, the shaft is divided into compartments. Thus we have a ladder-way to go up and down upon, a compartment for the pump, if one is needed to drain the mine, and a bucket-way through which the ore and rock are hoisted.

I have tried to show you, in the preceding pages, how a mine is opened; and, to complete the lesson, will take you, as well as I can on paper, into one which we will suppose has been worked for years, and is well developed.



Gallery.

Here we are in the shaft-house at the mouth of the shaft. The ore is lying in large piles around us, and the men and boys are busily engaged in hammer-dressing it (breaking off the rock from the ore), and sorting it into different classes, according to its richness. Others are weighing it, and loading the wagons which carry it to the mills, where the silver is extracted. Through the open door yonder you can see the glow of the forges where the drills are being sharpened, and worn-out buckets and tools repaired. Step into this room and see the engine working silently and steadily, and yet so powerfully. It moves the pump and hoists all the rock and ore from the mine, so easily that you would never imagine it was doing anything. Hark! a little bell has just struck, and see, there goes the bucket down by the run; another stroke, and the rope ceases to run out, so you know the bucket has stopped somewhere far below us. The little bell has struck twice this time, the rope is coming up now, and here is the bucket filled with glistening ore. No, that is not silver that you see; it is merely galena, which is almost as bright as silver when freshly broken. You can see no silver in it, and yet that piece you have in your hand contains it at the rate of perhaps a thousand dollars a ton.

Here come some miners dressed in their canvas suits. They are going below; so they light their candles, fasten them in their hats, and three of them step into the bucket together, give the signal, and down they go. It is time we were going down, too; so put on this pair of overalls, this old jacket and hat, and you are ready. Come over to the ladder-way, light your candle, and then follow me. The ladders are nearly perpendicular, but they are perfectly safe. Hold your candle between your thumb and forefinger, and come on.



The Stope.

We have come down about thirty feet only, and will now step off to the left to look at this stope. We are standing on a mass of broken rock, which rests on the stulls above the first drifts, some thirty feet still below us. You can hear the faint stroke a hammer far ahead, where men are at work. Come on. Look out for this "mill hole," where the ore is thrown down to the drift. Hold your candle up and see the vein of ore over our heads. Where you stand it is narrow; but see here; where I am it is nearly a foot wide. It looks dull and dirty, from the powder smoke. You can see the glimmer of candles in advance, and here the men are drilling. Well, let us hurry down; but we can keep on our way until we come to another shaft, which was sunk to cause a circulation of air in the mine, and hence called the "air-shaft." It is smaller than the other, but has a good set of ladders in it, so that in case of accident the miners can have two ways of escape. Here we are,

down to the first "level" (same as drift), which is several hundred feet in length. Come to the end of it and see the ore. Here are two more miners; but they have just "shot,"—you can smell the powder-smoke,—and are loading the car, which runs on this wooden track beneath our feet. There they go with it out to the shaft. Yes, the vein is looking well here.

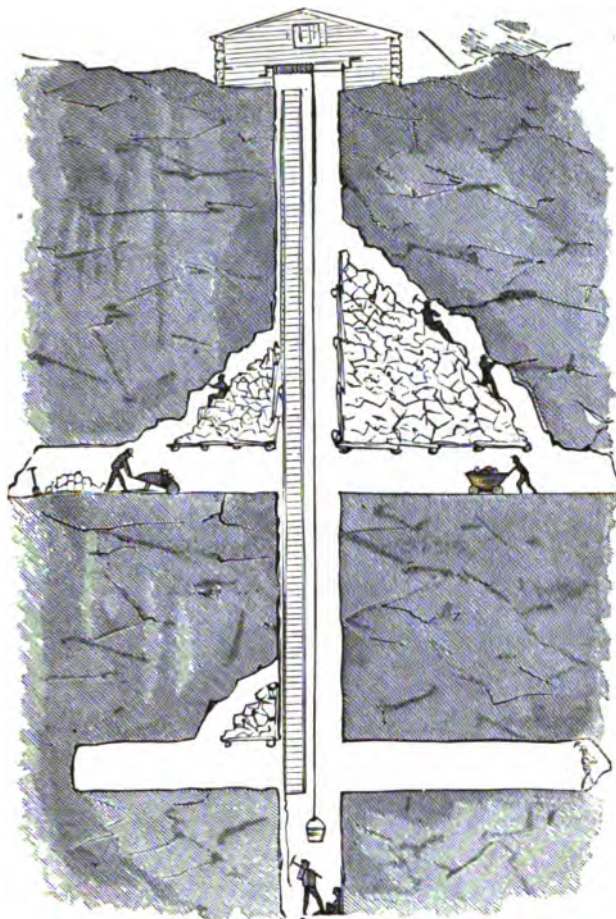
Now we will cross over the shaft into the drift on the other side. Here we find a car and track, too; in fact, we shall find them in every drift of any length, as they are very much better than wheelbarrows. See these stulls over your head; they are supporting forty feet of loose rock. If one should give way, it would be bad for us. The vein does not look so well in this heading; in fact, there is no ore at all. It has been pinched here for some time; but it will open out again in a few feet, probably. We will go down this "winze" to the next level. What is a winze? you ask. Merely a small shaft connecting one level with another.

Here is the ladder, and here we go down, much of the way through ground which has been stoped. The rock resting on the stulls below is carefully secured by timbers, so that it cannot fall into the winze. This level is very much like the one we have just left, only not quite as long.

Hark! there was a cry of "fire!" Don't be alarmed. It only means they are about to fire a shot. Step this way. Now shield your candle well with your hand, and stand still. There it went; and your candle is out. What a dull, heavy report! and how it shook the air!

We have now been through half a dozen drifts, climbed down as many winzes, crawled on our hands and knees through abandoned stopes; have clambered up and down ropes in lieu of ladders; have seen the ore-vein wide and narrow, rich and poor, and in many places have seen no ore at all, where by good rights ore should have been. Your clothes are wet, muddy, and covered with candle-droppings. Your face and hands are not much cleaner. In fact, you are a sorry-looking object, and are pretty well tired, too. But we have only to go to the bottom of the shaft, now, to retire with honor.

The shaft is about a hundred feet deeper than the drift in which we stand. Listen, and you can hear the faint click of the hammer down there, and by leaning over here you can see the candles, looking like so many glow-worms.



Working a Mine.

This is as far as the ladders go, and for the next twenty feet we must climb down this rope. Before going down, however, let us take a good look at the miners. They are dressed in oil-cloth suits, and well they may be, for the water is pouring down the sides of the shaft at the rate of three or four barrels an hour, and reaches them in the form of fine spray, with here and there a tiny stream, which runs off some projecting point of rock. The water is raised by the bucket to this tank, where we are standing, and from where the pump takes it. The miners seem contented enough, though, and the one sitting down turning the drill is singing as merrily as though this wet, muddy shaft was the pleasantest place in the world. This is their life; they are used to it, and know nothing else; for ever since they were old enough to do anything, they have worked around a mine, first at sorting ore, and

gradually working their way from that to drillsmen. Let us speak to them.

"Well, Harry, how is the rock to-day?"

"It's bloody 'ard, sir. We uns can't make 'alf a foot a shift, sir," is the reply we get.

Cornish, unmistakably. Well, down we go. Hold fast to your candle, and the rope, too. You will find the latter wet and slippery; but you are down safely. Here is the ore-vein running lengthwise of the shaft, you see, and looking well, too. Hold your candle close to that little hole, there in the crevice; see, it is lined with quartz crystals, which glisten like diamonds in the light. The miners call such cavities "vuggs," and they are often quite large and very pretty. Sometimes native silver occurs among the crystals, in the shape of fine wire.

Our clothes are not water-proof, however, and we are getting quite wet. "So, Harry,

you can ring for the bucket." How deep are we? About six hundred feet. The shaft is not quite straight enough for us to see daylight from where we stand. Do they work in the mines at night? Yes, night and day. As soon as the day hands have worked out their time, another set of miners take their place.

Do accidents ever happen — did you ask? Occasionally. The men sometimes get blown up by a blast; sometimes they are thrown from the bucket while going up and down the shaft; and sometimes a rock falls upon them from above. But in a well-regulated mine such accidents seldom occur. There is much more danger in a coal mine than in one of the kind we are in.

But here is the bucket. Some mines have "cages" instead of the ordinary bucket, which work on a principle quite similar to the "ele-

vators" you have seen in large hotels. But we shall have to content our-elves with a common bucket; so step in with both feet. I will keep one foot out to steer with. Hold your head close to the rope. — Harry, give the bell four strokes, so the engineer may know he has live freight on board instead of rock. — Here we go. — Harry, steady the bucket until it reaches the planks. — Now we are all right. It seems a little strange at first, but you will soon get used to it. There, you can see the light far above us. and gradually it grows lighter around us. See those heads peering out of the drift, looking like so many gnomes, those favorites with the German story-tellers, you remember.

Drifts, stopes, stulls, and gnomes are far below us, and here we are in daylight once more, a little tired, and decidedly muddy, but, I trust, repaid for our trouble.





THE FIRE ESCAPE.

A LONDON FIREMAN'S "NIGHT OF IT."

BY R. M. BALLANTYNE.

TOM BRANDERS had broad shoulders and tough sinews, blue eyes and a bright, bold face.

The most dignified of men may sometimes become ridiculous. No one who had seen Tom Branders, for the first time, on the night of the 20th December, 18—, could have believed it possible that he was regarded by his comrades as one of the most sedate, grave, manly, earnest fellows in the Brigade; for, on the night in question, he sat in his sentry-box, the absolute impersonation of idiotic imbecility.

The fact is, that Tom had been overcome by sleep. Prolonged watching had at length induced a condition of mind which seemed to render "appearances" a matter of supreme indifference. His cap had tumbled with a reckless air over one eye; his curly forelock had straggled over the bridge of his nose; his broad shoulders stooped to an extent that suggested the snapping of the spine; his well-shaped head swayed about as if in wavering uncertainty as to whether it would bump the back, or sides, or front of the sentry-box, and his firm lips broke occasionally into a remonstrative smile when

an unusually violent bump half-awoke him, and sent an echo, as if from a giant drum, through the silent street.

Although occupying a sentry-box, Tom Branders was not a defender of his country; although a brass helmet hung from a peg just over his head, he was not a member of the horse-guards; although clad in a blue uniform, with a broad belt and a big, piratical buckle, he was not one of the marines, albeit the round, sailor's cap on his head did smack somewhat of the sea. Nevertheless, Tom was truly a warrior—in an enemy's country, too, surrounded by the foe night and day, and liable at any and every moment to be ordered into action. He was a member of the London Fire Brigade, and, at the time we write of, was doing duty as guardian of a fire escape.

It is only of late years that the London firemen have had charge of the fire-escapes. In former times these were ably managed by a society supported by voluntary contributions. Now they are under government, and the regular firemen take their turn of duty at them night about.

The great city was in its deepest condition of repose, for it was a little after three A. M., at which hour late revellers had staggered to their respective homes, and early risers were

not yet stirring. The profound silence of busy Paddington was broken only by the occasional heel of a policeman and the intermittent drumming of Tom Branders's head before referred to. Presently there was added to these sounds the quick pattering of youthful footsteps, and ere long a very small and ragged urchin came trotting along, with his hands deep in his trousers pockets, and with that jovially reckless air that characterizes most of the London street-boys. He appeared to be in a hurry: nevertheless, endued with that wonderful capacity which is usually supposed to belong exclusively to great minds, he found time, in the midst of his more pressing engagements, to devote much of his attention to every small matter or trivial incident that cropped up in his path. In virtue of this capacity he saluted the policeman by the familiar name of "Bobby," asked several of them how they fared in regard to soap, gave them a good deal of gratuitous advice, and took a lively farewell by applying his thumb to his nose and wriggling his fingers — always, however, sheering off into the middle of the road, from prudential motives. Having recommended a neighboring weathercock to crow, if that would afford any relief to its elevated spirit, and having whistled in at a keyhole, in the earnest hope that the act might suggest dreams of burglary to those within, our playful urchin came suddenly round the corner of the church under the shadow of which stood the fire-escape of that district.

Standing beside the huge wheels, and looking up at the tall ladders with a critical air, he was about to apostrophize the machine, when a drum-like noise proceeded from the neighboring sentry-box. An expression of beaming glee overspread the urchin's features instantly. He went on tiptoe to the front of the sentry-box, opened the door gently, and stood there gazing with intense delight at Tom Branders's waving head and idiotic smiles.

An occasional squeaking sound, which proceeded from the boy's nose, gave indication of internal convulsions, and a mischievous twinkle in his eye showed that he meant to "improve the occasion;" but the rush of cold air through the open door awoke the fireman with a start. Becoming instantly conscious of the grinning boy, he sprang upon him with a growl; but the small creature eluded his grasp, and fled away with a yell of laughter, in the midst of which he was plainly heard to ask the disturbed fireman if his mother was aware of his absence from home.

Tom Branders listened to his retreating

footsteps with a good-humored smile on his face, — for he had a sort of undercurrent of affection for the entire class of street-boys. — and then turned, sailor-like, to observe the weather as indicated by the sky. We say sailor-like advisedly, because Tom had been a man-of-war's-man. All the men of the London Fire Brigade are picked young men from the navy, the training undergone in that force being found pre-eminently suitable for the production of good firemen.

Having surveyed the horizon as far as the chimney-pots would allow him, Tom consulted his watch, examined his escape, looked up and down the street, and then, gazing at the moon, slowly shook his head.



In the Sentry-Box.

There was an air of anxiety and sadness about the man's expression which appeared somewhat inconsistent with his strength and high health and somewhat wild calling. After gazing thoughtfully upwards for a few minutes, he began to walk briskly up and down, the night air being keen and frosty.

He had not walked long when a woman came quickly round the corner of the church.

"Molly!" exclaimed the fireman, turning suddenly round with a look of surprise, "*you* here?"

"I could not help it, Tom. Our darling is worse, much worse. I think she is sinking."

She laid her head on her husband's breast and sobbed.

"Come, Molly, don't give way like that," said the fireman, in soothing tones, stroking the woman's hair with his hand.

"O, it is so hard!" she exclaimed, with a touch of bitterness, "to have our first, our only one, our darling Alice, taken away so soon."

"Molly, Molly," said the man, tenderly, "the Lord gave, an' if it be his will to —"

He could not finish the sentence. With a strong effort he crushed down his feelings.

"Has the doctor been to see her?" he asked, after a pause.



The Rescue.

"Yes. He said that if she could only fall asleep, she might get the turn; but she has been restless ever since he gave her the draught, and I came out to tell you. Surely, Tom, it will be no sin to leave your post just for five or ten minutes, to see her before she dies!"

"Impossible, Mary, impossible," said the man, almost sternly.

"Can a short ten minutes be of such importance?" said Mary. "Many and many a night you have stood here without having a call. Is it likely there will be a call to-night, within that short space of time?"

"There may be; but, whether or not, Molly, my duty is *here*. Life and death sometimes

hinge on my being prompt. If by going home I could save the life of our darling, I might be tempted; but —"

"Well, I can't wait to talk," sobbed Mary, drawing her shawl round her with a shudder. "Our neighbor, Mrs. Davids, has kindly taken care of her while I came out to see you. I — Hush! What is that?"

Shouts and a sound as if of hurrying feet were heard.

The fireman made no answer, except by giving Molly one fervent embrace. Next moment he had struck a light and kindled the two lamps of his escape. The hurrying footsteps drew near, and the shouts sounded like the word "Fire!"

Tom Branders had flung his cap into the sentry-box, and donned his brass helmet before the first of the runners came round the corner of the church in the shape of a small boy — the same small boy who had passed the place not many minutes before. His eyes were almost starting out of his head with real excitement and anxiety, as he yelled, "Fire, fire!" vociferously.

"Just so, my tulip," said Tom, calmly, as he thrust a small hatchet into his belt.

Tom's actions were marked by a wonderful degree of celerity, while his countenance wore an expression of unruffled serenity, like an expert pugilist, who hits out like lightning, while he smiles like an easy-going Cupid.

"Look sharp, fireman!" cried a policeman, as he dashed round the corner at full speed.

"All right, Robert," exclaimed Tom, seizing the levers of his escape. "Now, then, lend a hand — will you?"

This was addressed to four men, who came up at the same moment. These, with the policeman, willingly lent their aid, and, in much less time than the account of it has taken to write, the fire-escape was going at full speed to the scene of one of those conflagrations of which there is an average of five a night throughout the year in London.

Fire-escapes are studded so thickly throughout London that there is always sure to be one in readiness within a few minutes' call of any spot where a fire may occur. Our hero, therefore, soon reached the place where his services were in demand.

Frequently an escape reaches a fire a few minutes sooner than do the fire-engines, owing to its nearer proximity; and the man in charge is provided with a hand-pump, so that, in the event of there being no one to be rescued from the windows, he may begin to check the fire at once. At the commencement of a fire a small stream of water may be sufficient

to quell it, although five or ten minutes later a mountain torrent would have little or no effect on it. Hence fire-escape men are often the means of stemming the tide of what, but for their energy, would have become a great conflagration. But it was not so on the present occasion. The fire had broken out from the first with irresistible fury, in a dry-salter's store, so that, when the escape was run up, sheets of flame and volumes of smoke were already pouring out of the lower windows.

"No use for the hand-pump here," muttered Tom Branders, as he pushed vigorously through the crowd, which was fast collecting.

That there was use for the escape, however, was evident from the shrieks that were heard issuing from the numerous windows directly above the burning store.

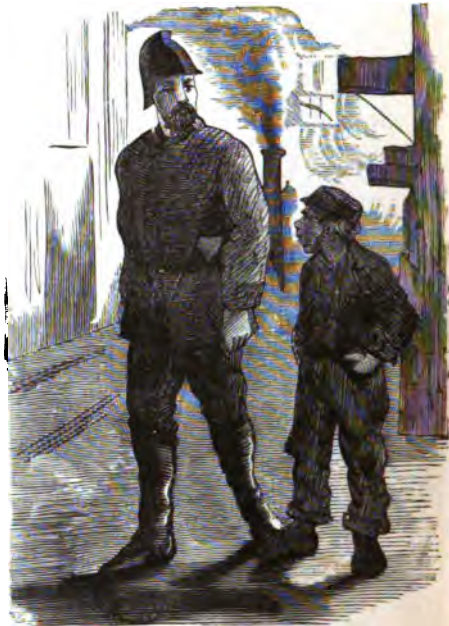
It was a somewhat poor neighborhood, and the rooms above the store were densely inhabited by people in indigent circumstances. Most of these had escaped down a back stair, and were now in front of the house uttering frantic cries for "help," and "ladders;" stating, in wild, incoherent sentences, that children or parents were still in various parts of the threatened building. Some of them, after escaping, had run back to attempt the rescue of relatives; but in an incredibly short time the back and front stairs were both rendered impassable by the fire.

Tom Branders at once unshipped his short ladders, and planted them at two of the lower windows, where a man and two women were seen in the midst of suffocating smoke, wildly flinging about their arms, and shouting for help. These he left to the care of the policeman and one or two of the more daring inhabitants of the neighborhood, who soon rescued them. Meanwhile he ran the escape towards an upper window of the tenement, where a woman was seen with a child in her arms.

The head of the escape just reached the window. With the activity of a cat, Tom ran up the ladder and seized the woman, who was making frantic but not very successful efforts to scramble out of the window with the child in her arms. At the same moment there was a loud shout from the crowd, and a stentorian voice directed the fireman to the windows of the floor above. Just then a suffocating cloud of smoke well nigh choked our hero, and immediately after a sheet of flame shot up through the floor and wrapped round his legs, while the din around him was rendered more bewildering by the furious rattle and roar caused by the advent of two fire-engines, which galloped up to the scene of action.

There was not a moment to lose. The woman was too excited to act. Tom, therefore, seized her and the child in his strong arms, plunged headforemost into the long canvas bag, or shoot, which hung underneath the ladder, and slid in safety to the ground, pressing his outspread knees against the sides of the shoot, to regulate the speed of his descent. Jumping up, and leaving the woman and child to be cared for by others, he seized the side-ropes of the ladders, by means of which the flying-ladder was raised so as to reach upper floors.

"Lend a hand here, lads!" he cried, sharply.



The London Boy.

Men of his own brigade were now ready to answer the call, each a thorough adept in the management of fire-escapes. Leaving to them the work of hauling on the levers, he sprang up and gained the fly-ladder almost before it was pitched. It touched the window-sill where the man was screaming; but the smoke, bursting out in a dense cloud just then, prevented him from seeing what was being done. Choking, and in a fit of desperation, he leaped from the window. Tom was within six feet of him at the moment, and saw him leap. Clutching the ladder with one hand, he leaned back and received the falling man on his broad chest. The stout machine quivered under the shock and strain, but did not give way. Seeing that the man was able at least to hold on, Tom whispered a word of encouragement, scram-

bled past him, and leaped through the window into the room. Here all was darkness, owing to smoke; but Tom was accustomed to smoke, and knew exactly how far he was able to stand partial suffocation.

There is a saying that "knowledge is power." The saying was verified by Tom Branders on this occasion. His thorough knowledge, founded on training and experience, gave him the power to keep cool and act, where braver men — if such could be — might, in their ignorance, have quailed. He sprang across the apartment, and tumbled over an elderly man, who had just fallen down in his blind haste to reach the window.



Alice is alive.

Tom raised him quickly, bore him to the ladder, and was carrying him down on his shoulder, when he began to struggle, and gasped, —

"Save, O, save my child — my Alice!"

"Can you hold on?" cried Tom, setting his burden against the ladder.

"Yes, O, yes; don't mind me. Alice, Alice! Quick! The attic above the room where you found me!"

The fireman needed no second bidding. Leaping once more up the ladder, and knowing well that his comrades would look after the man who clung to it, he dashed across the room, found a door, burst it open, leaped up a narrow wooden staircase, and felt for the door

of the attic, but could not find it. All round him was black as midnight, and he felt that a few moments more of such smoke must overpower him. The thought of his own sick, dying child came vividly to his mind; and the knowledge that one who bore the same name must perish in a few minutes if he did not succeed in rescuing her, drove him frantic. He drew his hatchet, and was about to make an insane attempt to cut through the wall, when he observed a small skylight in the low roof, against which the comb of his helmet had already struck once or twice.

To dash this into atoms was the work of a few seconds. Regular drill-practice in the gymnasium of the brigade had rendered it an easy matter for him to haul himself up through the hole and get out on the roof. Here the fresh air revived him, and here he found a window leading into the attic. One thrust with his foot dashed in the whole frame, and he leaped through, followed by a wild cheer from the crowd below, who had caught sight of him in his giddy position on the edge of the roof, surrounded by smoke and lurid firelight. But it was not a giddy position to Tom. Many a time, during wild storms, had he laid out to reef the topsails of a man-of-war; and often had he stood on the main truck, in calm weather, "for fun." Thus was he trained to attempt deeds of daring on better grounds than "fun."

Tom was rejoiced to find the attic comparatively free from smoke, though tiny wreaths rising from seams in the floor showed that it would not long remain a place of safety. In a low truckle-bed lay a little girl, ruddy with the hue of health, and sound asleep, despite the noise around her. The crash caused by his leaping on the floor, however, awoke her with a start, and she uttered a wild scream of terror as the fireman's huge, dark form met her gaze. The scream was redoubled when Tom seized her in his strong arms and lifted her, blanket and all, out of bed. There was no time for ceremony or delay.

"Alice, dear," said the fireman, in a tone as soothing as was compatible with his violent and swift action, "don't fear; you're all safe. Father's below."

But Alice was deaf to all blandishment. She continued to yell and kick in abject terror, while her deliverer bore her out on the roof, walked slowly along the narrow ledge, where the loosening of a single brick, or the loss of balance by a hair's breadth, would have pitched them headlong on the stones below. Still screaming and kicking, she was borne down the skylight; but, while traversing the passage and the attic stair, and the lower room

to the window, she was silent, being nearly choked. A few seconds later and they were upon the fly-ladder, and the blanket was drawn tight over the child's head, for, during the descent, tongues of fire as well as clouds of smoke swept around them. Gaining the top of the lower ladder, Tom plunged head-foremost into the canvas shoot, and, guiding himself, as before, by his knees, reached the ground in safety amidst enthusiastic cheers.

In the midst of the congratulations that were showered on him, and the natural feelings of thankfulness and exultation that swelled his breast, Tom heard words that stemmed the tide of gladness, and sent a chill to his heart.

"Cheer up, man; rouse yourself; the child is safe. Your Alice is alive and well!"

The father, overcome by exhaustion and terror, had swooned; but these words charmed his spirit back.

"Alive and well!" he cried, raising himself and looking round wildly; then, as the little one rushed into his arms, "Thank the Lord, Alice is alive!"

"God help me!" thought poor Tom Branders; "my Alice is ill, perhaps dead!"

"Not much hurt, Tom, I hope," said the foreman of the brigade in that district, coming forward and glancing earnestly at our hero's singed head, blackened visage, and bloody hands. "Here, one of you, fetch a glass of spirits!"

"I'm all right, sir. No, no spirits, thankee. I don't need 'em. I'm only scratched a bit with the broken glass."

"Well, get home as fast as you can. You've done enough to-night, Tom. We'll manage the rest without you. There are no more to be saved now; or, if there are, it's too late. And we're getting it under."

As he spoke, the truth of what he said was confirmed by the flames bursting upwards with a terrific glare, and the roof of the building falling in with a crash that sent myriads of sparks into the wintry sky.

Tom, therefore, glad to be relieved, started off at a brisk pace for his home, which was not more than twenty minutes' walk from the spot.

At the outskirts of the crowd he observed that a small, ragged boy ran by his side, about a pace behind him, and appeared desirous of attracting his attention.

"What d'ye want, lad?" he demanded, somewhat sternly, as he stopped.

"Please, sir," said the boy, in a somewhat hesitating tone, "I'm sorry I did it."

"Sorry you did what?" asked Tom.

"That I — that I said *that* w'en you was in the sentry-box."

"Said what? I don't understand you."

"Axed you if — if your mother knowed you was hout."

Tom burst into a hearty fit of laughter; for, although he had suspected, for an instant, that the urchin was chaffing him, a second glance at his flushed face and eager gaze convinced him that he was in earnest.

"Well, is that all you've got to say?" he asked.

"That's all," replied the boy, with a grin.

"You're a queer lot, and I'd like to have a chat with ee, but haven't got time just now. Will you be passin' this way Tooseday next in the evenin'?"

"Yes."

"Just give a call at my box — will you? I'll be on dooty there again that night."

"I will," said the boy, decidedly.

The fireman shook the urchin's dirty little hand, and so they parted.

It was still dark when Tom Branders turned the corner of his own little street and knocked softly at the door of his dwelling. Not so knocked his heart against his heaving breast, when Mary lifted the latch and let him in.

"I'm glad you are late," said his wife.

"Why so?" asked Tom, in some anxiety.

"Because our darling has been sleeping sweetly for three hours, and still sleeps. The doctor has been here again, and says that she has got the turn, and we have every reason to hope that she will recover."

The fireman's first impulse was to exclaim, in the words of the father to whose heart he had so recently brought gladness, "Thank the Lord, Alice is alive!" Then, sitting by the bedside of his slumbering child, he related to his wife, in whispered sentences, how that a great fire had broken out, and many lives had been in jeopardy, and *another* Alice would probably have been among the dead at that hour, and another father would have been in deepest woe, if he had forsaken his post that night even for the brief space of quarter of an hour!

To dress the slight cuts in his hands, and remove the traces of his recent battle with the flames, was a work that occupied the fireman but a short space of time. Thereafter he kissed his sleeping child, flung himself, half dressed, upon his bed, and in two minutes was sound asleep, with his coat, cap, belt, boots, and breeches laid handy on a chair, to be ready at a moment's notice for another "call;" for the London fireman's warfare is perpetual, and his vigils never end.



A RACE FOR A MARKET. Page 192.

SARDINES.**WHERE THEY COME FROM, AND HOW THEY ARE CAUGHT.**

BY GEORGE M. TOWLE.

HAVE you never wondered, as at the home tea-table you partook of the delicate, shiny little fish which come in such tight, hard-to-get-open boxes, packed in such tempting little layers, and, when once extricated from their air-tight prisons, so deliciously tasting, — have you never wondered how they are caught, and by what means they are so skilfully preserved? How came they by their name, which reminds you of an interesting island in the Mediterranean, and of a snug little kingdom under the Alps, where Victor Emmanuel used to reign in modest state before he was called upon to sit upon the throne of united Italy at Rome? And how can such little fish be caught? and what makes them so much more delicate than the smelt and minnows which we fish out of the harbor and the little rustic streams?

I am going to tell you about an interesting excursion I once made to the very spot where almost, if not quite, all the sardines we get in America are gathered out of the sea. It was

not in the Mediterranean, as you might suppose; for, although sardines are so called because they were originally found in glistening shoals round about the Sardinian Island, but few are now taken in that beautiful southern sea. The great sardine trade is supplied from the coasts of the Bay of Biscay, where, you, no doubt, have heard, the storms rage with unusual violence, whose waters are often strewn with wrecks, and which lashes the shores of France with a sort of spiteful fury, as if it were a very greedy sea, and wanted more elbow-room. Starting from Paris at five in the evening, it took me all night to cross France, going westward; and in the morning I found myself at Nantes, a quaint, tumble-down old city, where the houses seemed tipsy, and the streets crazy, the capital of ancient Brittany. Here, you may remember, in the old, round-towered castle, which they now use as a barracks, the good Henry of Navarre signed the famous Edict of Nantes, which gave a little freedom and breathing-time to the poor, persecuted Protestants of France. But I did not remain there long, though it was interesting to wander about the musty old squares, and linger in the lofty, age-worn cathedral. A further railway journey along the banks of the wide, rapid, and island-

studded Loire brought me to the coast. A queer coast it was, bordered here with long, flat marshes, reaching on one side as far as eye could reach; there with big, jagged, eccentric rocks, some of which seemed on the point of throwing their next-door rock-neighbor into the sea, and others lay over on their sides, as if they were tired of resisting the waters, and were at last yielding to the persistent castigation of the waves. It was about the first of June—the fishing season, as the New England boys very well know, almost everywhere. Had I been at home, I should have been, on that same first of June, buried in the depths of the New Hampshire hills, following trout streams up the cool woods, being bitten now



At Nantes.

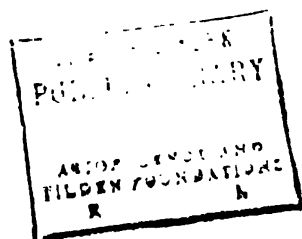
and then, doubtless, by mosquitos, but so rapt in circumventing the sly little wretches in the brook as to let them bite without a struggle. Here I was, however, far off on the west coast of France, surrounded by a number of rough old fishermen with faces that looked like leather, blue frocks, big, wooden shoes, and speaking a language which not even my Parisian chum, who came with me, could comprehend, and which I consequently did not try to unravel. They were big, brown fellows, with rough voices, like a trombone with a very bad cold, but good-natured withal, and ate their breakfast of cold buckwheat cakes, sour bread, and more sour wine, with as much gusto as you and I do a nice American dinner at home.

All along that queer-looking coast—which, I observed, everywhere had exactly the appearance of having been for centuries the battle-ground of water against earth, waves against rocks—they were fishing for sardines. The extent of sea over which the fishing goes on comprises many miles, extending from Morbihan to La Vendée: the best quality, according to the fishermen's traditions, is to be found opposite a picturesque little seaport in the south, called Les Sables d'Olonnes. Myriads of these beautiful little fishes begin to swarm up the coast, in shoals of some thirty feet wide, early in the spring. Go out a mile or so from the shore in one of the old, flat, lumbering fishermen's boats, at this time of year, and you will see these shoals floating not far from the surface, and glittering like an infinite number of little aqueous prisms. The little shiners are countless, and wiggle along close together, packed almost as tightly as they are destined soon to be in those extremely obstinate boxes, and move in so solid a mass that, unless you look very intently, you may imagine them to comprise but one big, glistening, many-colored sea monster. When they are young, they are, like human children, innocent and confiding, and fearing nothing, keep pretty close to the shore, and even at times run in shoals up the bays and inlets. As they grow bigger, however, which they do very fast as the summer advances, they begin to get suspicious, and more shy of the shore, and when they have become quite mature, cannot be induced to approach nearer than nine or ten miles from man's earthly habitation. The sardines are very tender little fellows; they are as sensitive to raw and squally weather as an elderly lady with weak lungs. When it is warm and the sun shines bright, in what countless shoals do they dot the waters! But let a chilly breeze come up, and the heavens become leaden, and you may scour the sea far and near, to catch sight of one of them, in vain.

We get into one of the squat, ugly boats, with its queer, flat oars, and its rough and rather too leaky bottom, and push off from the rocks. There are with us four stout Breton fishermen, in coarse caps and blouses, and a pudgy Breton boy, with a big moon face and rather dull eyes, bronzed brown with a constant exposure to the sun. He is bareheaded, and his hair is the color of decayed tow. We are provided with several closely-woven nets, and in one corner of the boat is a tub full of *cod roe*. Cod roe is the bait wherewith the tender shiners are lured from their native ele-



THE SARDINE FISHERY.





Dropping the Net.

ment. The roe and milt of ling fish are also much used. This roe is imported, at considerable cost, from Norway, and might be from the United States if our merchants and the Bretons knew it. Often the fishermen have to pay between twenty and thirty dollars in gold per barrel for it, and they require some \$400,000 worth of it every fishing season. Each boat consumes yearly seventeen barrels of it. Sometimes the fishermen mix with the roe a kind of shrimps, native to their coast, which are collected by odd old women in the salt marshes round about, and sold to the fishermen. These old women are called "*chevrettières*," which might be translated in our American slang as "shrimpists." The fishermen say that these shrimps are only of use to disturb the water, for the sardines do not take to them as bait. When we have got out, by dint of persistent pulling, jerking, and bouncing, some three leagues from the shore, and, looking back, can see the coast of stormy old Biscay stretching dim and jagged for miles up and down, our chief fisherman, who uses his authority with sober sternness, and speaks very little, gives orders to stop rowing; and presently we see why, for now the shoals of sardines begin to glisten all around in the water, four or five feet below the surface, and the fishing is about to begin. Slowly and carefully the mesh is unwrapped, stretched out, and held over the boat's side. Here comes a shoal of fine, fat little fellows, wiggling coquettishly along, and quite unsuspecting of their danger. The net is quickly and silently slid right down among them, not horizontally or slantingly, but perpendicularly, so that it floats like a little wall of thread. Then, in an instant, captain plunges his hand in the roe, crushes it out of lumps into bits, and scatters it thick and fast as near to the mesh as he can. The countless sardines rush for it headlong, and rush and jostle each other, and are so intent on the roe that, before they know it,

thousands of them are hopelessly entangled in the meshes, and stick there struggling. There are still multitudes left after the net is completely dotted with the poor, captive little creatures. The net is pulled up, another fresh net instantly inserted in its place, which gathers a harvest as plentiful as the preceding one. More roe is thrown out, and trickles fast down through the green waters; and thus again and again the nets are thrown and drawn in, laden heavy with their fishy burden.

Observe that the sardines are not *bagged* in the nets, — as most fish caught with nets are, — but are caught in the meshes, and hang helplessly entangled in them, in a hopeless though desperate struggle to set themselves free. And now the inside of the flat-bottomed boat is swarming with the shining, writhing mass; but they soon cease to writhe; for our remorseless captain proceeds to sprinkle salt over them, right and left. The reason of this is, that the sardine is the frailest and most delicate fish that swims. After he has been out of water an hour, he begins to decay, and the salt is sprinkled over him to preserve him temporarily until there is time to put him upon the market for sale, or till he can be consigned to the factories for permanent preservation. But they are not so much salted when thus taken out of their native element but that they are mighty pleasant to the palate even of him who does not like salt fish. In the Breton towns and cities fresh sardines are a very favorite, because cheap and delicious, article of food. Should you spend a night in one of them at about the period when the fishing is going on, you would be startled from your slumbers by a very queer, shrill, long-drawn-out cry under your windows. Should you summon courage, and have the curiosity, to jump out of bed and go to your window, you would see a great, brawny, leather-colored peasant woman passing along the street, clattering noisily with her big wooden shoes, and

you would discern upon her head a long, flat basket full of sardines. These she sells from door to door, going her rounds early enough to provide her fare for the breakfast-tables; she sells them for a cent or two each, though if she perceives you to be "Anglais" or "Americain," she will try to get double the ordinary price out of you. These sardines are only a very trifling salt: get your landlady to fry them in the peculiar Breton fashion, and you will have a most delicious, delicate, savory breakfast of them, fit for a king, and such a breakfast, indeed, as kings themselves would only obtain by going where the sardines are; the mountain must come to Mohammed. They are, prepared in this way, the sweetest, and



Sardine Vender.

tenderest, and juiciest of all the finny tribe. But, of course, by far the larger portion of the sardines are sold by the fishermen to the factories for preserving and sending them abroad. There are very many of these factories all along the Breton coast, and there is a lively competition among them to secure the freshest and healthiest fish. So it is captain's great ambition, having duly got in and salted down his harvest, to hurry off and dispose of it before his rivals, who may be seen dotting the waters at irregular distances for miles around, have a chance to anticipate him. We are therefore in a great hurry in our return voyage shoreward. Captain is anxious, and rips out savage, though to us quite incomprehensible, Breton oaths at the other men for not rowing more stoutly and steadily. He peers nervously

on this side and that, to see if Pierre or Jacques is not making land before him. To be sure, there *is* Jacques, frantically gesticulating, as he stands in the stern of his boat, and very nearly on a line with us, at sight of which captain grows more nervous and profane than ever, — my Parisian friend thinks he is summoning ten thousand imps or so to his aid, — and we lurch, and jerk, and crash so, that it seems as if every moment we were about to dump the whole of our precious load into the boiling waters of Biscay. At last, however, we make land in safety. Captain and his men carefully gather up the sardines in rude tubs and barrels; a little wagon is at hand, with a most solemn-faced little donkey saddled to it; and before we have had more than time to observe that Jacques also is at his landing, and is going through similar exertions, off rattles captain to the little town whose single topsy-turvy spire just peeps above a cliff half a mile away. We follow him as we can, for our legs are somewhat stiff from being so long cramped in the boat, and the shore is jagged and rocky, and difficult to creep along.

Arrived at the "confiserie," as the preserving establishment is called, we find that the canny captain has already made his bargain with a sleek-looking man, in the office near the door, who is counting out some silver to him. Captain looks beaming, and hands a ten-sous piece to each of his men, who rush off to treat themselves, and, turning to us, tells us that he has secured six francs (a dollar and a quarter) per thousand for his boat-load. As the load counted between four and five thousand, it was a very successful day — for the average of a summer's work to each man is not over about two hundred dollars. They, like our summer-resort hotels, have to make hay while the sun shines.

The proprietors of the "confiserie" lose no time in submitting their acquisition to the processes for preserving them. As we pass through the rooms nearest the office, we observe piles of glistening tin boxes, of many sizes, neatly stowed on long shelves, ready to receive their contents now preparing for them farther on. The first thing that is done to the fish is to wash and scrape them with great care; and this is done in a long room provided with sinks for the purpose, by a number of strong, lusty-looking peasant women, who wear long linen caps, which extend out horizontally at the back of their heads, and have metal chains around their necks. These women wash and clean the sardines with great rapidity, and take care that they are quite free from

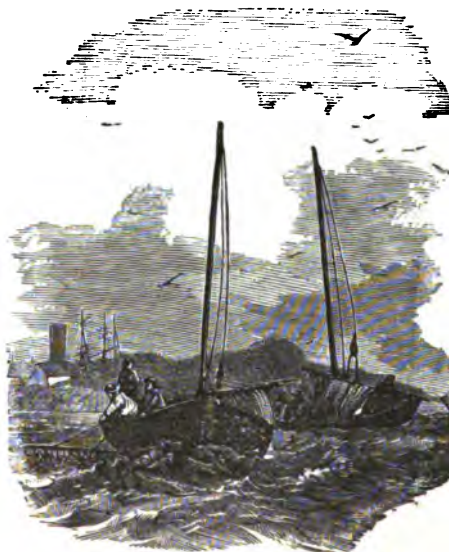
the sand and weeds which cling to them. The heads and gills are then quickly and skilfully cut off with long, sharp, narrow-bladed knives, and the bodies are then lightly sprinkled with fine salt, which crystallizes on the surface, and is afterwards scraped off and given as a perquisite to the women. Having been thus duly washed and salted, they are laid out to dry upon wire or willow frames: this is done in fine weather on the roofs; and sardines are much nicer if thus dried in the sun. But there is a long, slightly heated room where they are dried in case it is damp or rainy — as it very often is in inclement Brittany — out of doors. When they are thoroughly stiff and dry, they are thrown into caldrons of boiling oil, situ-



Cleaning Sardines.

ated in the cellars, and here they are left seething and sputtering for some two hours. Once more, on having been thus thoroughly cooked, they are laid out to dry. Then they are taken to a room where a large number of open tin boxes are arranged in rows along a series of tables, and packed quickly therein, some of the boiling oil being poured on them. The lids are now fitted to the boxes, and these are subjected to a jet of hot steam for a specified time. They are thus sealed tight, and it is singular that after this subjection to the steam the boxes appear curved on both sides; if they are found not to be so, they are rejected as not air-tight. They are soldered, burnished, and labelled by the women, and sometimes are enamelled. About one hundred of these boxes are packed

in each wooden case, and thus forwarded to their destination. It is a curious fact about sardines, that the longer they are kept, so the box is not cracked or opened, the better they are; a long residence in the oil improves their complexion as well as their taste; they become mellow and fine after several years' detention in their oily prison. Hundreds of thousands of these little boxes come yearly to this country, giving to our housewives and cooks unlimited bother in opening them, and our tables a relish such as we could ill do without, while for a long journey or a picnic party they are well nigh indispensable. Indeed, so popular are these tiny inhabitants of restless Biscay, that other fish, much less delicious, are put up by unscrupulous men, in a similar way, and labelled "Sardines;" but those who are accustomed to the real article will seldom be deceived.





ICE-BOATING.

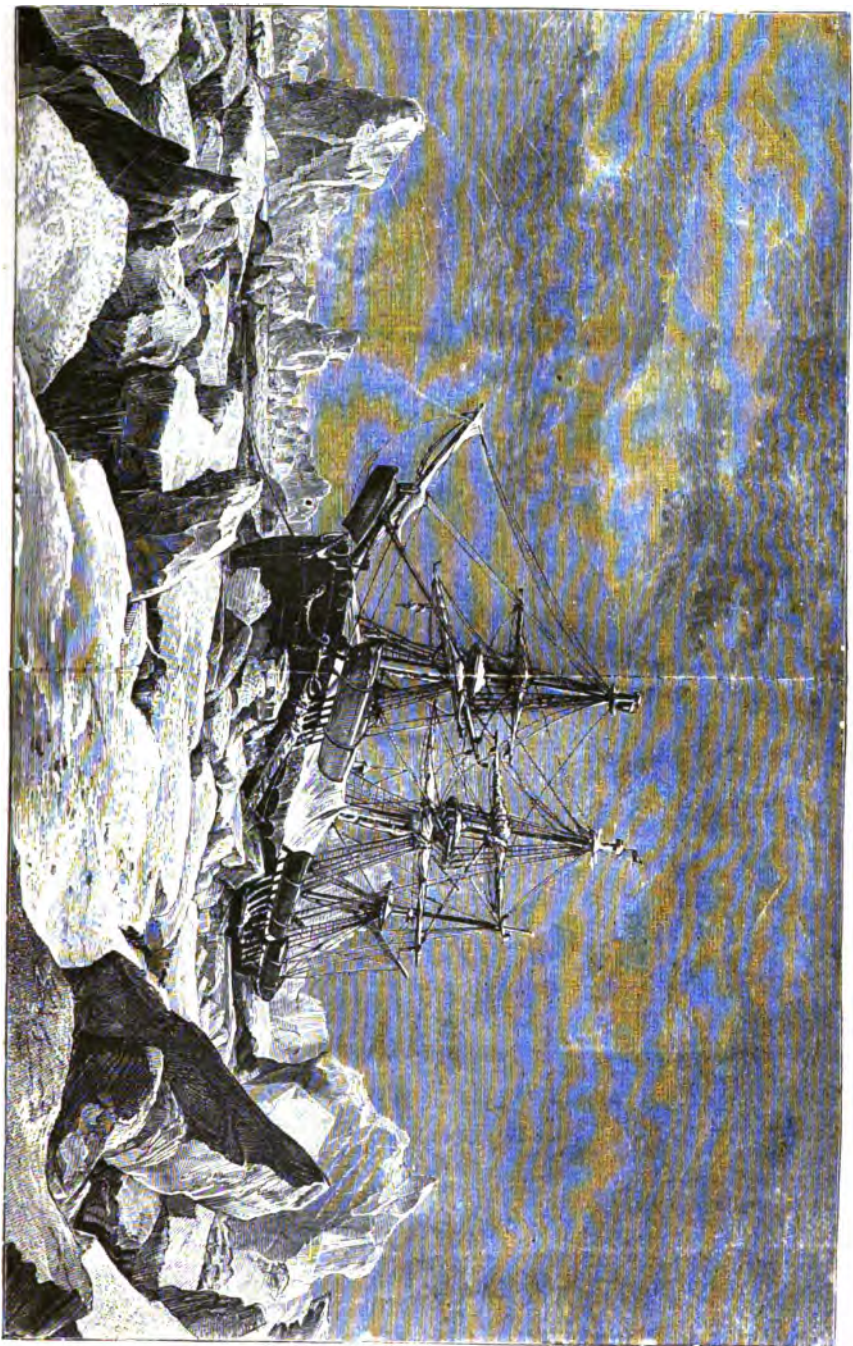
BY WILLIAM P. DUNCAN.

ICE-BOT sailing is very exhilarating and healthful, yet possesses the elements of danger, which may add to its attractions for some minds; for boys are brave even to the verge of recklessness, and many hair-breadth escapes there are, the narration of which would seem stranger than fiction. The writer well remembers many years ago the thrilling sensation experienced in his first ride over the ice on a lake in a western town. Our boat—shaped like a flat-iron, with the rudder at the point, a short runner under each corner, rigged with mast, mainsail, and jib—and the boat in motion, like a flat-iron going backwards—but such going! such motion! The lake was about two miles across, the wind fair, our steersman a lad of nerve and spirit, used to a boat. Our ride was simply delightful, but all too short; for when we started we looked up, and then about and up again, and lo! we had reached the opposite shore. Distance was annihilated, steam-travel eclipsed, crowded, unhealthy cars forgotten. We turned about and fairly revelled in our coursings up and down our icy way. That ride passed safely enough, but our final landing was effected rather abruptly, by reason of the rudder

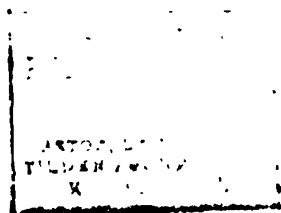
becoming somewhat unmanageable, and we bunted the wharf in a way that more than suggested a wreck, and sent our crew rolling upon the ice very promiscuously—but no bones of ours were broken, though the front of the boat was crushed in.

A few days after, having repaired damages, we went on another excursion. It was near the middle of spring; the ice looked sound enough, though a little honeycombed in spots; and teams were yet crossing to the mills on the other side. The lake formed the mouth (rather a wide one) of a river that flowed into Lake Michigan, some three miles away. We could see its blue waters in the distance, but as our boat was not fitted for sailing there, we kept away from it. A high wind had been blowing for many hours inland from the "big lake," and some of our friends had cautioned us to look out for "breaking-up time"—and one more timid than the rest had even advised us not to venture far from shore; but, nothing daunted, we embarked, and by a succession of tacks crossed and re-crossed the lake several times. The surface of the ice was dotted with many sails that seemed all like swift, strong-winged, white birds flying to and fro; and our hearty "Ship ahoy!" was scarcely heard, if we chanced to meet, so quickly did we pass.

There was a mill way down the lake, and



ICE BOUND.



one of our number had an attraction in that vicinity; at any rate, he proposed taking a run that way, and, boy-like, we all consented, notwithstanding the caution we had received. We arrived safely, and found very agreeable company at the mill boarding-house, and the proprietor strongly pressed us to stay that night, for a "party" was contemplated in the evening; and if any of my readers know what a western "party" is, it will be acknowledged a strong temptation was put in our way. Yet to some of us it did seem that we ought to be returning. We could hear the roar of the "big lake," but the ice we had traversed looked firm and secure, and we yielded. The next morning, it was plain to see that the ice had undergone a change. It had rained a little during the night, and large patches of the surface were covered with shallow pools of water. There was a dark, treacherous appearance to the ice, and one of our number decided not to return with us, but go down to the mouth of the river and cross in a ferry-boat. The rest of us were determined to return as we came, although our kind host urged us to follow the example of our cautious comrade.

Bidding our friends good by, we started homeward; the wind was strong, still blowing inland, and our steel runners fairly hummed over the ice, as we flew on the wings of the wind. We would dash through the surface water, throwing it all about us, if by any means we fell off our course. All went well for a time, and we were congratulating ourselves on our probable safe return, when suddenly, as we were bowling along at our topmost speed, we spied just ahead of us a wide seam in the ice, and the blue water of the lake tossing and chafing either side of it.

"Put about!" "Put about!" "Put about!" was shouted by us all.

Our steersman, with wonderful speed, did "put about," and our vessel obeyed the helm, but with such terrible swiftness that one of our number was hurled with frightful velocity into the very chasm we were seeking to avoid.

It was a fearful moment; the catastrophe broke upon us so suddenly, that we were ill prepared for it. But, as I said before, our steersman was a lad of nerve and spirit, and putting the craft in charge of one of our number, he seized a pole which we carried, and ran quickly to the very edge of the chasm, plunged it in, peering anxiously in all directions; but no boy was there. The thought was agonizing that the current might have carried our luckless comrade under the ice; but suddenly he

rose to the surface just beside us, and quickly clutched the pole, as only one drowning can, and we drew him safely out — more dead than alive. Our shouts of rejoicing rang out over the lake, and, as we afterwards learned, were heard miles away. Vigorous rubbing soon restored our half-drowned sailor, — who was really going down for the third time as we rescued him, and our spirits revived, — for youth is seldom long cast down, — and our pleasure at saving his life warmed our bodies as well as our hearts. We started again along the edge of the chasm, dragging our boat till we reached the point, and, rounding it, came up the other side, embarked, and once more sped on our way.

"Do you see that?" shouted one of our crew. We looked astern, and ever and anon we could see great cakes of ice turn up on end, and sink again in the wake of our runners. Some of us turned pale, I fear, but we were none the less brave for it. Thanks to a kind Providence, we skimmed the watery waste in safety, and on reaching our home landing, found the wharf lined with anxious friends, who received us with loud acclamations of delight and welcome. That ended our ice-boating for the season, for as we looked out the next morning, we saw the ice moving majestically out to the "big lake," and in a few hours it was all an open sea.





A BULL-FIGHT IN MADRID.

BY OLIVER OPTIC.

BETWEEN the bull-fight that you "read about" and the bull-fight that you see in Spain at the present time, unless the imagination is quick, and ready to supply deficiencies, there are some important differences. Possibly the spectator who is filled with an intense admiration of Spanish valor and skill, may be able to realize all the glories of which he has read in the books. We have come to the conclusion, as an explanation of the difference between what we saw and what we read, that something of the spirit of the age has penetrated the interior of Spain; that as railroads now extend from north to south, and from east to west, over the entire length and breadth of the country, they have produced a change in the manners and customs of the people. Wherever they go, they carry thrift and intelligence, and elevate the ideas of even the masses, giving broader and higher views of life and its objects. A Catholic nation, with the traditions of Spain behind it, with the memories and monuments of Charles V. and Philip II. still extant, which had the moral courage to suppress the monasteries within its borders, must be a progressive

nation. We refer to the action of a Catholic people in a Catholic country. We should hardly expect the bull-fight of to-day, though the *fiesta de toros* is still retained, and still enjoyed, to be what it was, even twenty years ago, when hardly a railroad was in operation in all Spain. We should expect to see in this amusement the same modifications which we find in the other institutions of the country.

We have been told, and we have read, that the young man who is paying his addresses to a young lady takes her to the bull-fight as a matter of course, and that the omission to do this would be considered a gross neglect; gross enough to justify the lady in discarding so neglectful a wooer. Of course, then, when we went to a bull-fight, we expected to see a vast number of ladies. The "bull-ring" of Madrid is said to contain ten or twelve thousand people when it is full. We should judge that its capacity was equal to this number. We visited it on an extraordinary occasion, and every available space seemed to be occupied, but the number of ladies did not exceed two hundred; and we think there were not more than half that number. We left the place when the exhibition was half finished, and walked for an hour in the Prado, which was crowded with people; but at least three

fourths of them were ladies and children. The inference was, that the men were at the bull-ring, while the ladies preferred the clear air and the bright sun of the beautiful gardens which abound in the capital of Spain.

Certainly there was little of the savage ferocity described by most of the writers on this subject. We have conversed with those who have witnessed bull-fights, even within a dozen years, in which as many as twenty horses were killed on the spot; and we have read of occasions on which double this number were sacrificed. As the success of a *funcion* depends largely upon the number of horses killed, these were, of course, very brilliant.

We saw three bulls finished, but not a horse was killed, though one of the half dozen ridden must have died from his injuries. Again, the fiery steeds which appear in pictures and in the animated narratives of the national pastime of Spain are not to be found in the ring at the present day. On the contrary, they are jaded old hacks, which have worn out their lives on the omnibuses or public carriages of the city. They are thin in flesh, knock-kneed, and stiff, afflicted with spavins, string-halt, and other diseases. Though the public cry out for the death of the horses, they do not seem to be extensively gratified.

We were told that the horses were supplied by contract with an individual or a company, who—like some of the rings in our own country—bargain to cheat the people out of what they pay for. The less the number of horses destroyed, the greater are the gains of the contractor; and he contrives to have an understanding with the operators in the ring to save as many animals as possible, which they can do to the extent the temper of the audience will permit, by a skilful use of their banners in diverting the attention of the bull. We were also informed that, in case the contractor's horses provided for a given occasion should come short of the number required, he has unlimited power to take a further supply from the cabs, carts, and omnibuses on the streets, as the military may take the produce of the country, in time of war, from friend or foe. Of course, if the people are gathered to see horses mangled and slaughtered, they must not be disappointed because the contractor has under-estimated the ferocity of the bull! Horses must be killed, even if hacks and omnibuses are stopped in the streets to obtain the victims.

For a week preceding the last Sunday in

October, 1870, the streets of Madrid were placarded with immense yellow posters, with a large and coarse cut of a scene in the bull-ring representing the death of a bull. The bill read as follows:—

“BULL RING.

(Cut.)

On the Afternoon of Sunday, October 30, 1870,

Will be performed

(If the weather permits),

The twentieth Bull-Fight.

The Last of the Season!

For the Benefit of the General Hospital.

The Ring will be presided over by the proper Authorities.

The present performance will positively be the last of the season; for at the end of the current month, the contracts with the bull-fighters are concluded.



Espada.

For this reason their Excellencies, the Committee of the Province, desiring to express to the public their profound gratitude for the numerous occasions which have contributed so largely to the relief of the sick poor in the General Hospital, have arranged that this bull-fight shall have all the features of an extraordinary performance; and that, in com-

pliment to the people, and without alteration of the price, will be killed

EIGHT BULLS

from the most celebrated *ganaderias* (farms where bulls are raised). The committee have arranged that the Ring shall be adorned with splendid hangings; that the whole shall be a *gala* performance; that the *bandarillas* shall be ornamented with garlands, flowers, feathers, banners and streamers; and, finally, that the bull-fighters have determined to show in their performance, that they are worthy of the appreciation and applause which the public have awarded to them.



Banderillero.

The eight bulls will be from the *ganaderias* following:—

Two bulls from the *ganaderia* of His Excellency, the Duke of Veragua, near Madrid; two from that of Don Vicente Martinez; two from that of His Excellency, Sr. Don Rafael Laffitte; one from that of Don Antonio Miura; one from that of Don Joaquin Concha Sierra.

BULL-FIGHTERS.

PICADORES. For the first four bulls, Juan, Antonio Mondejar and José Calderon; and for the last four, Ramon Agujetas and Manuel Calderon. There will be two reserves of *picadores* should necessity require them.

ESPADAS. Cuyetano Sanz, Francisco Arjona, and Reyes, and Salvador Sanchez.

SUPERNUMERARY ESPADA. Angel Fernandez.

The order of entrance of the bulls will be settled in the ring on the day of the exhibition, at half past eleven o'clock. The tickets for the forenoon, at four *reales* (twenty cents), for sale at eleven o'clock.

The usual care taken against accidents. As previously announced, no dogs will be used; but fire *banderillas* will be substituted for bulls which will not fight at the call of the Authorities. No more bulls than those announced will be provided.

The prices of all seats will be the same as those of previous exhibitions. All except children at the breast will be required to purchase tickets; and the public are notified that no tickets will be exchanged at the office, except in case of postponement; and no checks will be given to go out. Ticket Office, No. 24 Calla de Alcala, will be opened Friday and Saturday, from 10 A. M. till night, and Sunday from the same hour until 3 P. M.

Doors open at 1 o'clock. The performance will commence precisely at 3 o'clock. The Hospital Band will perform at the opening, and during the intervals."

As this was a *gala* day, the *Calla de Alcala*, the street leading from the *Puerta del Sol*, or principal square of the city, from which radiate several of the great avenues of the city, was filled with a crowd of people, most of whom were men. The tickets had been largely taken up by speculators, who were peddling them out on the street at about twenty-five per cent. advance, shouting vigorously as they announced their wares. We paid a dollar and a quarter for one of the best seats "in the shade," though the less eligible seats could be bought for a half or a quarter of this price. We reached the *Plaza de Toros* in good time, and obtained a cushioned seat, near enough to see all the finer points of the national spectacle. The ring was filled with men walking about, chatting, and smoking—we never saw a Spaniard who did not smoke. Everything was quiet and orderly; and the audience seemed to be composed of intelligent and respectable people. At a signal made with a flourish of trumpets, a couple of officials dressed in black, and mounted on better horses than the *picadores* ride, entered the ring, and the people slowly retired from it. The two horsemen, who are supposed to be soldiers of the civil guard, rode very deliberately across and around the ring, making no demonstra-

tions of any kind, till the people had all got over the fence and taken their places in the amphitheatre. The seats of the spectators are arranged on inclined planes, so that all of them command a fair view of the scene. Between the arena and the seats of the people is an open space for the use of the bull-fighters; though not a few "loafers" invade it. Over the partition which separates this space from the spectators, a rope is extended around the entire circle, to prevent the bull from leaping in among them, as he sometimes attempts to do; for he not unfrequently jumps over the fence into the intervening space. On the partition next to the ring is nailed a ledge of wood, by which the operators are enabled easily to jump over the fence when closely pursued by the bull. There are four entrances with double doors, opening inward to the ring.

At another flourish of trumpets, one of these entrances is opened, and all who are to take part in the *funcion* march into the ring, and pay their respects to the authorities in charge of the performance. Some of these bull-fighters are paid large sums for their services, and are men of great distinction among the people. A bull-fight in Madrid or Seville costs about two thousand dollars. The performers are divided into four classes; the most important and distinguished of which are, the *espadas* (from *espada*, a sword), who kill the bull. They are the masters of their art; and their photographs are for sale in the principal cities. They are men of great skill and courage, having a decided genius for their business. They come up from the lower class of performers, without necessarily passing through all the regular grades. They are paid from two hundred and fifty to three hundred dollars for an afternoon's work; and two or three of them are employed for each performance.

The second class are the *banderilleros*, who receive from fifty to seventy-five dollars for a single performance. Their name comes from *banderilla*, a stick about three feet long, adorned with bright-colored ribbons, in the end of which is a dart with fangs, which spring out when thrust into the shoulders of the bull, so that it cannot be drawn out.

The third class are the *picadores*, who receive about one hundred dollars for their services on each occasion. They are regarded as drunkards and "scalliwags," but are paid more than the *banderilleros*, because they are supposed to incur greater peril at the conflict.

The fourth class are the *chulos*, who are paid

from fifteen to twenty dollars. They are men selected for their skill and activity; for their business is to enrage the bull, and to decoy him from others when they are too closely pressed.

All the actors of the several classes marched or rode solemnly into the ring, and made their obeisance to "*La Autoridad competente*." The procession was followed by three mules harnessed abreast, and gayly decorated with ribbons. After the performers had paid their respects to the "powers that be," all of them retired except a couple of *picadores*, and several *chulos*. The former are mounted on the



Picador.

diseased old horses, which are blindfolded, when the fight begins. They are gayly dressed in bright colors, as in the engraving. Their legs seem to be disproportionately large, and very stiff, as though they had all been seized with the gout. They are boarded and stuffed to meet the onslaught of the bull. If the enraged animal should happen to unhorse the *picador*, he is unable to get up alone, and the other combatants must lift him from the ground and put him on his horse. The *chulos* are provided with banners of red and yellow, which have the appearance of large mantles.

At another signal, after the two *picadores* have stationed themselves on opposite sides

of the arena, with poised lances, one of them being near the gate by which the bull is to enter, the doors are thrown wide open. *El toro* has been thorned and vexed, and stirred up to the highest degree of fury in his pen, and in this condition he rushes into the ring, intent upon wreaking his vengeance upon his tormentors, "or any other man." The *picador* near him first attracts his attention, and he "goes for him." Dropping his head so that his horns are brought to bear on the object aimed at, the bull makes a spring at the horse and rider. The *picador* receives him on his spear, which wounds the animal, and turns him off. If the bull is mad enough, he would make an end of horse and rider at this point; but a *chulo* flourishes the banner in his face, and draws him off. It is a rule of the game that the stupid brute will always rush upon the red cloth. He goes for that when it is shown, and not for man or horse.



A Feat of a Chulo.

Having relieved the first *picador*, the *chulo* jumps over the fence, and then the bull sees the second *picador* on the other side. He rushes upon him, and to gratify the audience, he is permitted to gore the horse, which he sometimes does so effectually as to kill the steed, and "spill" the rider. But the *chulos* in the interest of the contractor do not often permit this to be done, but by the adroit use of the banners call off the bull from his prey.

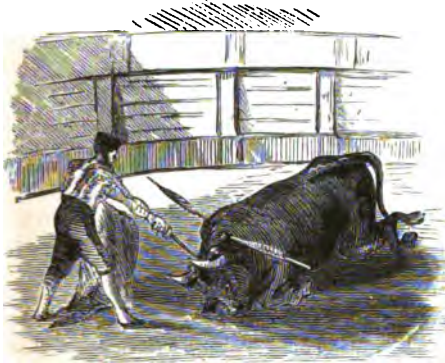
In the assault upon the second *picador* in this fight, the flank of the horse was ripped up, and his entrails protruded, whereat the people yelled their applause. The game with the bull was continued for a few moments by the *chulos*, who lured him from one part of the ring to another with their banners, often being

obliged to jump over the fence to escape his horns.

After this play had continued for a time, a signal with the trumpets brought the *banderilleros* into the ring, armed with the implements of their office. One of them engages the attention of the bull, and when the furious animal comes at him, with his head dropped down so as to transfix him on his horns, he dexterously thrusts the two darts into his shoulders, and escapes as best he may. This is really one of the most daring and skilful feats of the performance, for the *banderillero*, with a dart in each hand, has no banner with which to distract the attention of the bull. He "faces the music," and if he fails to plant the *banderillas* in the bull, his chances of escape are small. When he has achieved his difficult feat, the *chulos* take the bull in hand again, and tease him for a moment more.

At another signal one of the *espadas* makes his appearance in the ring. Though the bull may be near him, the man is cool, dignified, and self-possessed. He marches directly to a position in front of the authorities, removes his cap, and declares, in lofty speech, that, "in the name of the good city of Madrid and of the people there assembled, and for the benefit of the General Hospital, he will kill the bull, or be killed in the attempt to do so." This speech is varied at times, and the *espada* asks permission to kill the bull, and promises to perform his part in a manner which shall do honor to the people of Madrid. Having made his address, he swings his right arm around behind him, tossing his cap over his left shoulder into the amphitheatre among the spectators. With a Toledo blade in one hand, and a small red banner in the other, he begins to discharge the duty he has agreed, with so much flourish, to perform. Attracting the attention of the bull with a red flag, which is the best calculated to excite the resentment of the beast, he frolics with him for a time, displaying the utmost skill and dexterity in warding off an assault. When the "bull makes a dive at him," he springs one side, and doubles on him. No one assists him; but he incurs all the peril by himself. When he distinguishes himself, the people not only applaud furiously, but throw their hats into the arena; thus giving a key to the common slang, "Take my hat," when any one has done a big thing. If the feat is emphatically brilliant, a shower of cigars, and even a few silver pesos mingled with them, will be thrown into the ring. He bows his acknowledgments, and the *chulos* pick up the gifts and hand them

over to him. The decisive moment approaches, and he prepares to make an end of the fight. Holding out the banner in his left hand, extended across his breast, the *espada* approaches his intended victim. The wrathful bull rushes upon the obnoxious color, and, as he drops his head, the *espada*, reaching over the horns of the animal, plunges the sword deep down between the shoulders, aiming at the heart. Sometimes he kills him instantly, and sometimes he fails to do the deadly job. Fair play is one of the elements of the game; and if the blow is not fatal, the *espada* must recover his weapon, if he had not already done so, and try again with the same one. We saw a bull stabbed three times before he was killed. He cannot be struck, either, when he is down.

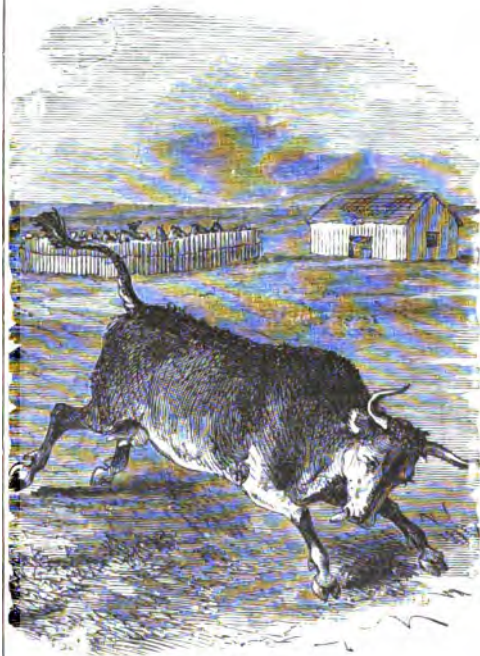


Espada.

One of the three we saw killed, leaped over the inner fence after he was stabbed, causing a tremendous commotion among the "loafers" there assembled. He was driven back into the ring, and a second lunge at his heart killed him. Sometimes the bull is a coward, or, for some reason, will not fight, and is not "game." The bull-fighters have no mercy upon such, and torment him with fireworks, and if he prove obstinately peaceful, hunt him down with dogs. The bull is sure to be killed in the end; there is no immunity from his fate, however courageous or however cowardly he may be. As soon as he drops, a *cachetero* plunges a short dagger in the spine of the vanquished beast, to make sure that he is dead; the gayly harnessed mule-team is attached to him, and he is dragged ignominiously out of the ring, to be cut up and sold for beef. One gateway is no sooner closed upon the victim of one fight, than another opens for the admission of the second, and the scene is re-enacted with some slight variations. A *chulo*, braver and more ambitious than the rest, seeks to distinguish

himself, and performs some daring feat, such as jumping upon the back of the bull, leaping over him, or seizing him by the horns. Such acts always win applause, and the daring fellow believes he had taken the first step towards being an *espada*.

In Toledo, a few days after the bull-fight we have described, we met a beautiful, highly-educated, and refined American lady, the wife of a naval officer, who rather startled us with the information that she had attended this particular *corrida*. She expressed her opinion in regard to it with a snap of the eye and a vigor of diction which pleased us not a little. Her sympathies were all with the bull, and for the poor old horses. She declared that nothing would have pleased her so much as to see one or more of the bull-fighters tossed in the air by the animal. Undoubtedly there is a great deal of skill and science, and even courage, displayed by the *lidiadores*, but the bull is overmatched. He has no chance at all. If his nature could be so changed that he would "go for" the men, instead of the red banner, we fancy that bull-fights would soon be out of fashion.



YACHTS AND YACHTING.

BY OLIVER OPTIC.

OUR boys are marvellously like other boys, and therefore desire to know more about boats and boating. The yachting season has already commenced, and promises to be one of the most interesting and exciting for years. We present to our readers this month a full page engraving of a lively yacht scene, which will doubtless wake up the imagination of our boys. The sloop yacht in the foreground is doing her prettiest, and appears to be logging at least ten knots. The picture has a regular salt-water swash, and conveys a capital idea of a first-class yacht, "with a fresh breeze and a white-cap sea."

Sailing is certainly one of the most exhilarating sports in the whole catalogue of amusements; and when we consider how kindly full-grown men, even those who have spent half a century of years among the vanities and frivolities of this earth, take to it, we cannot wonder that the younger members of the male persuasion desire to taste its joys.

But, whatever may be said of its exciting pleasures, sailing is a dangerous amusement for inexperienced persons, be they men or boys. We protest most earnestly against young men, without knowledge, skill, or experience, being trusted, or trusting themselves, to handle a sail-boat. They should have skip-pers to sail their craft, until they have acquired the requisite skill and power to manage the boat. This skill and knowledge appertain not only to the boat, but to several other conditions. The boatman should be reasonably weather-wise, so that he can see when a squall or storm is coming. He should have some idea of the power of big waves, so as not to swamp his craft in the trough of a sea. He ought to learn the "rules of the road," so as to avoid collision. The eye and the ear should be schooled, so that the former may be tolerably accurate in the measurement of distances, and the latter may give warning of danger in the night or in a fog. Practice, and the companionship of well-trained boatmen, while actually managing a boat, are all that are needed. No taking of lessons, or formal studying of the subject, will enable one to acquire the art; but it will come of itself from natural observation and experience.

There are some things which may be learned from books and verbal explanations, but the one thing needful in sailing a boat will not come of reading or listening. We beg that no young man will think he can become a skipper

by reading this, or any other article, or all that has ever been written on the subject. We can give the names of the various spars, sails, and pieces of rigging in a yacht, and explain the theory of sailing a boat, but we can no more fit a boy to sail a yacht than a four-year-old could be prepared for running a locomotive by showing him the picture of the machine.

Ordinary yachts are either sloops or schooners, the former having only one mast, the latter two. Both have a bowsprit, but a one-masted boat, without one, the mast stepped well forward, is said to be "cat-rigged."

Figure I. represents a sloop. The lower part is called the hull. The spar set nearly perpendicular is the mast. A schooner has two masts, distinguished by the names fore and main; the latter word meaning *principal*, and not farthest aft. It is always the larger of the two. In ships and barks, having three masts, the middle one is the main-mast, which is the largest and tallest of the three; and the hindmost is called the mizzen-mast. *K* is the bowsprit. In the larger schooner yachts another spar, extending still farther forward, and at the end of which another sail is fastened, is called the jib-boom. A rope or chain, running from *K* down to the cutwater — which is just what the word indicates — is called a bob-stay. *d e* is the boom, generally called the main-boom. *g g* is the gaff. The end next to the mast is called the throat; the other end, the peak. The upper part of the mast, which is sometimes a separate spar, spliced upon the lower mast, is the top-mast.

Near the water, *r* is the rudder; and the stick attached to it above the rail, or highest part of the hull, is the tiller, by which the rudder is turned. In the larger yachts, and even in some small ones, a wheel, either horizontal or perpendicular, is used instead of a tiller. *The helm* is a term applied to the whole steering apparatus, whatever it may be. "To take the helm," is to grasp the tiller, wheel, or tiller-ropes; it is steering the boat, however it may be done. "To carry a weather helm" indicates that the craft has a tendency to throw her head up into the wind, and the tiller must be turned towards the weather side, or side from which the wind comes, to counteract this tendency. "A lee helm" is just the opposite, and is a dangerous propensity in a yacht.

Standing rigging consists of shrouds, stays, and other parts which are not moved. Running rigging consists of halyards, sheets, and

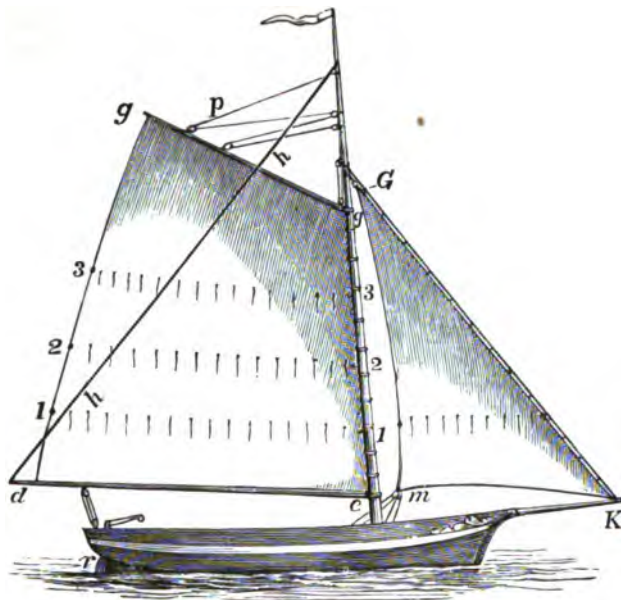


Figure 1.

other parts used in hoisting, lowering, and trimming sails. The rope from *G* to *K* is the *jib-stay*, on which the jib runs up and down. That extending from the top-mast to *d*, at the outer end of the main-boom, *h h*, is the topping lift, used to hold up the boom. Stays are ropes used to support masts or topmasts. In square-rigged vessels, the fore and aft stays lead from the tops of the masts or topmasts to other masts, or to the bowsprit, and back-stays from the topmasts down to the sides. In small craft any rope used to support the mast is called a stay. In schooners the rope leading from one mast head (not topmast) to the other parallel to the deck is the *spring stay*. A loose rope under the bowsprit, or under that part of the boom extending beyond the hull, is a foot-rope, for the men stand upon in loosening and furling the jib and mainsail.

The rope attached to the jib at *G*, by which the sail is hoisted, is the jib-halyard — used in the singular or plural. They lead down to the deck on the starboard side; flying-jib halyards on the port side. At *m* are the jib-sheets, usually a pair of them, to trim the sail on either side. The main-sail is hoisted by two sets of halyards. The blocks and rope abaft the mast, above *g*, are the throat-halyards, which always lead down on the starboard side; at *p* are the peak-halyards, which lead down on the port side. The little marks across the mainsail, 1, 1; 2, 2; 3, 3, are reef-points.

A rope is sewed into the edge of the sail all around, called the bolt-rope. At 1, 2, and 3, on each side, are *cringles*, or holes, through which a rope, called a reef-pendent, is passed, in hauling the part of the sail to be reefed down to the boom. The reef-points are short pieces of rope, going through the sail, the ends hanging down on each side. When the main-sail is to be reefed, they are tied under the lower edge of the sail, thus confining a portion of the sail in a roll on the boom. One, two, or three reefs may be taken, as indicated by the figures. When three are taken, the sail is said to be close-reefed. A line of reef-points is shown on the jib, which are seldom used on small craft. In the larger yachts, the part of the jib below the reef-points is often a separate piece, which can be taken off at pleasure, and is called the *bonnet*. The tackle under the boom near the tiller is the main-sheet, which may be let out till the boom is at right angles with the hull.

The diagram 8, in Figure II., shows the positions of the boom. In sailing before the wind, the sheet may be let out till the boom is at *a* or *e*, on either side. In a schooner, going exactly before the wind, the fore-sail is sometimes let out on one side, and the main-sail on the other; she is then "wing and wing." A sloop is wing and wing when the jib is trimmed on one side and the main-sail on the other. When the wind comes from the direction *e*, or

on the beam, the boom is at *b*. In this position she is said to be on the *port tack*, the wind being on the port beam, or to have her port tacks aboard. When the wind comes from *a*, the boom is at *d*, and she is on the starboard tack, or has her starboard tacks aboard. When the boom is at *c*, or a very little angling either way, she is close-hauled, or by the wind, and is sailing as near as she can in the direction from which the wind comes.

The arrows at the bottom of the figure represent the direction of the wind: the craft at 1 is before the wind. To bring her into position 2, put the helm to port, and haul on the jib and main sheets. She is now on the starboard tack, going free, with the wind on the quarter. To work her into position 3, with the wind on the beam, repeat the same operation. Then, to bring her up into the wind, as in position 4, port the helm and haul on the main-sheet, till the boom comes from *a b* to *δ δ*. If alone, haul in the jib-sheet after the main-sheet. If the breeze is fresh and the yacht large, it may be necessary to *spill* the sails, that is, throw the boat's head up into the wind till the sails flap; this will make it easy work, for it is difficult to pull against the whole force of the wind. In positions 2, 3, and 4, putting the helm to the port side is putting it *down*, that is, away from the wind. In position 5, starboard is *down*.

CAUTION. In positions 1, 2, 3, or 4, the helm should never be put to starboard, or *up*, even in a light wind, for it will gybe the boat, which is a very dangerous manœuvre, especially for unskilful boatmen. If you wish to go to the westward, it is better to wear entirely around, that is, keep the helm down, or hard a-lee, till the sail shakes; then the boom will go over without danger.

The boat in position 5 is close-hauled and beating to windward, the line *K* being her course, though a good yacht will lie up to the wind closer than this line indicates. Her course to the southward ought to be a series of diagonals, like the two in the diagram. At each angle, she tacks. At position 6, the skipper puts the helm *down*, to starboard, or hard a-lee. The manœuvre is called "going in stays," or tacking. In a full-manned yacht

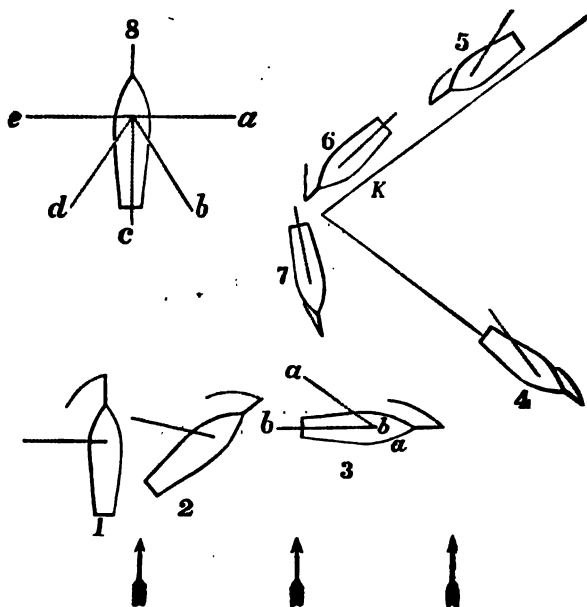
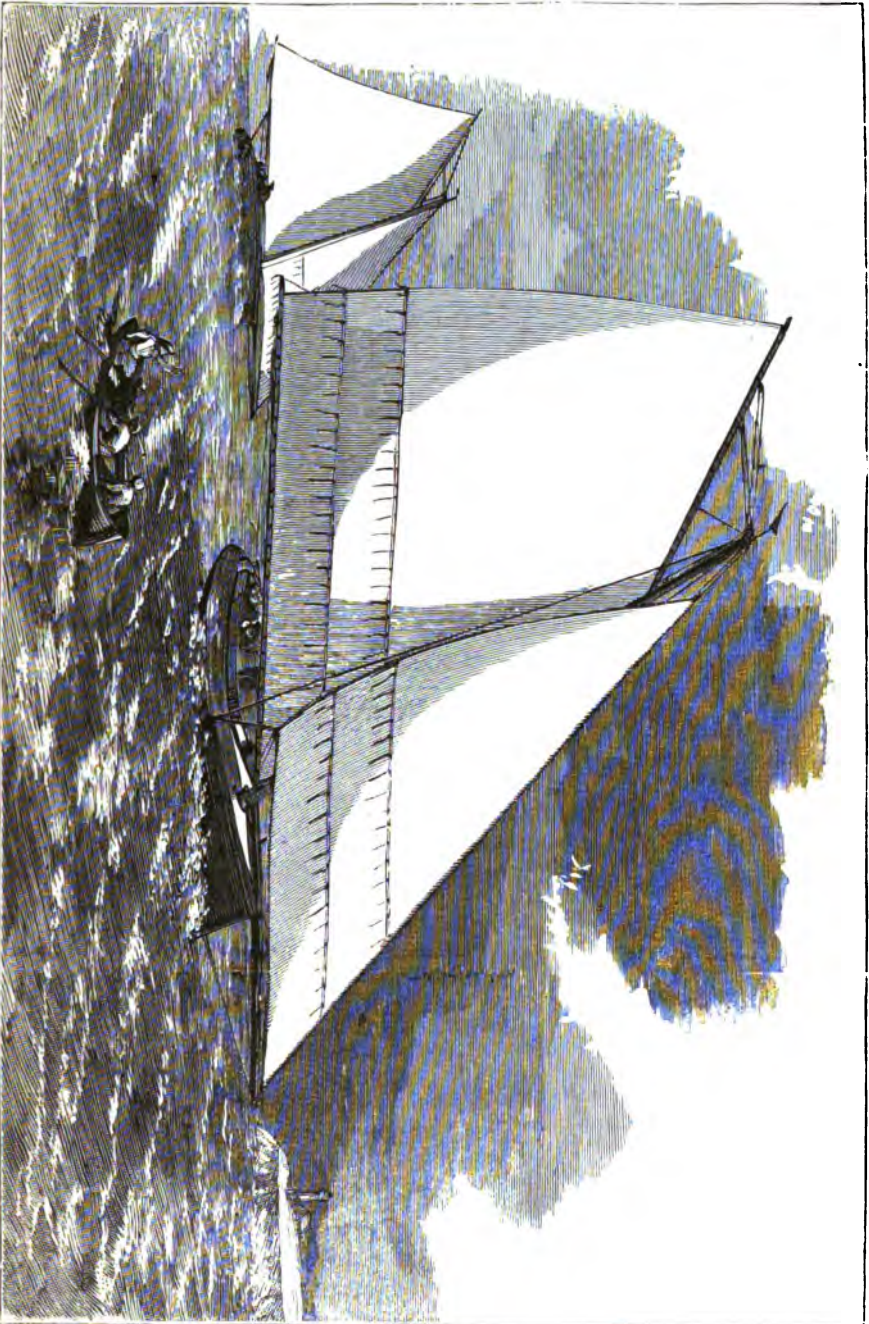


Figure 2.

the command of the captain is, "Ready about!" or, "Ready to go in stays!" The main-sheet usually slips over on an iron rod, called a *traveller*, and needs no attention in tacking. When the bowsprit points in the direction from which the wind comes, or a little before, all the sails shake and flap. The momentum acquired while the sails were still drawing gives her steerage way, and she continues to mind her helm, till, in position 7, the sails begin to draw on the other side. The jib-sheet is not cast off till the sail fills, when the skipper says, "Draw, jib," and the hands forward let off the weather, and haul the lee, sheet. In small yachts, the jib-sheets lead aft, and the skipper may manage them himself. The manœuvre is repeated at position 4, and the yacht again sails in the direction of the first diagonal.

In sailing on the wind, or going free, the skipper should sit on the weather side, so that his view ahead may not be obstructed by the sails. A boat going free gives way to one that is by the wind, or close-hauled. If the courses of two yachts by the wind threaten a collision, the one on the port tack must give way to the one on the starboard tack.

No one but a fool will be careless and reckless in a sail-boat. There is no honor or glory in fool-hardiness.



YACHTING.

100



THE LITTLE BUILDER.

LITTLE BUILDERS.

I. BEAVERS.

MAN was not the first builder. Long before houses, or tents, or huts, were built, long before there were men to need shelter, little animals, of different species, made their ingenious dwellings, as well adapted for their wants as our houses are for our real or fancied necessities and conveniences.

Long before man built dams across rivers or brooks, beavers, with wonderful ingenuity, made their dams, which have remained for generations, until large trees have grown upon them, and they have become permanent; and they have set examples of diligence, perseverance, and care which men might profitably imitate.

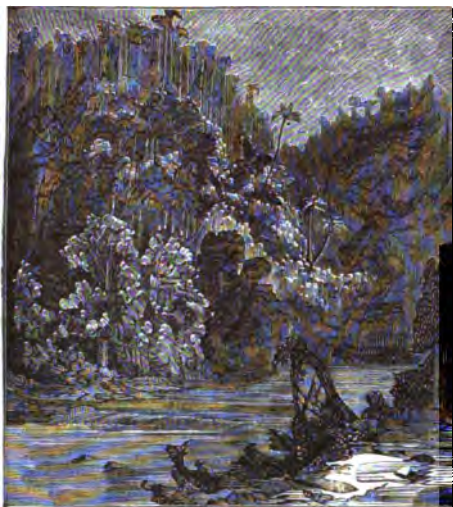
In the Northern and Middle States, in marshy localities, or where brooks and small rivers flow, beaver dams or beaver meadows are numerous, but the builders are gone. The gradual "clearing" of the country, and the zeal of the hunters, have driven them northward and westward, until now they are very scarce, and even under the shelter of the woods of the Rocky Mountain region they are few in number.

Beavers are sought for their beautiful fur, and for an odorous and oily brown substance called *castoreum*, which has a disagreeable smell and a bitter taste, but is highly valued by perfumers and the medical profession. There was a time when a "beaver hat" was beaver, and not silk, or some other material; but a genuine "beaver" would be a costly

curiosity in these days, while the imitation answers every purpose save that of durability. The fur of the beaver is highly valued, and therefore the hunters sought for the intelligent, ingenious, and industrious animal with great zeal. But the supply was ere long nearly exhausted; and, as is usual in such cases, man's ingenuity came to his aid, and satisfactory substitutes were found. *Castor*, or *castor beaver*, as applied to a hat, has an origin plain to be seen. It has been said, recently, that the use of material other than fur in the manufacture of hats has given such a respite to the fiercely-hunted beaver, that they are resettling their forsaken haunts, and may again become numerous.

The beaver is not a particularly handsome animal. Its large head, small eyes, cloven upper lip, long and wide tail, its hind feet, webbed and larger than the fore feet, the muzzle projecting a little beyond the jaws, — these characteristics do not unite in making an animal beautiful to the sight, and only illustrate the fact that character and habits in animals, as well as in men, are not always to be known by external appearance. The beaver's ears are movable, and are not very prominent; and, when the animal dives, he lays them close to his head, and thus prevents the water from entering.

Many and wonderful stories are told of the habits and the ingenuity of the beaver; but the truth is sufficient, without exaggeration. It is a social animal — seems to understand the practical methods and value of "coöperation," and exercises a judicious choice in its



HAUNTS OF THE BEAVER.

dwelling-place. The dams which they build are built for a purpose, and mistakes in the "civil engineering" are apparently unknown. Clear rivers and brooks, and sometimes lakes, are chosen for their habitations; and, wherever they take possession, they immediately set at work to adapt the place to all their wants. The first and imperative want is a full supply of water at all seasons of the year; for the beaver is amphibious, and makes but a poor piece of work in travelling on the land. With wonderful instinct, as if with the precaution of reason, they build dams for the purpose of raising the water to the desired height, and then on the bank they construct their rude dwellings. As they are night laborers, little is known, by actual observation, of their manner of working; but it is easy to judge by examination of the results. At some distance above the place where they design to build the dam, they cut down trees, and let the current bear them down stream towards the situation; and with the branches and trunks, cut according to their wishes or necessities, and with mud and stones, they gradually make a dam which effectually resists the action of the water. With true engineering skill, the base of the dam is made about ten or twelve feet wide at the bottom, and about two feet wide at the top; and, as in process of time the stream brings down bushes, and sticks, and mud, &c., which lodge on the dam and become a part of it, the structure gains solidity and strength; and of course vegetation starts upon it, and the roots of bushes and trees crawl down into the mass,

and hold it tightly in position. When the stream is shallow, and the current slow, the dam is built straight across; but wherever the current is strong, the dam is curved, with the convex side up the stream, so that a stronger resistance shall be made to the rushing water. Man's ingenuity and science cannot improve upon this.

The teeth of the beaver are wonderfully fitted for the labor of cutting trees; they are very strong and very sharp; the jaws are also remarkably strong. One naturalist says that their teeth are so sharp, and are used with such skill, that a tame beaver has repeatedly been seen to take a potato or an apple in his fore paws, sit upon his hind feet, and merely by pressing the apple against his lower incisors, and dexterously changing its position, to peel it as readily as if done by a human being with a knife.

In building a dam, the logs are laid horizontally, and kept in place by stones and mud. They are generally six or seven inches in diameter, but sometimes have been found as large as eighteen inches through. When it is remembered that dams have been found three hundred feet in length, ten or twelve feet wide at the base, and of a height varying according to the depth of the water, some idea may be had of the patience and perseverance of these model builders. The beaver displays skill in selecting and cutting trees. Having found one in the right place, he sits upright, and with his sharp teeth cuts a groove completely round the trunk, and then widens and deepens it. When the tree is nearly cut off, as seen in the cut, he examines it carefully, and calculates in what direction it is best that it should fall; he then goes to the opposite side and bites at the thin support until the tree comes crashing down. Then the builders cut it into pieces about a yard in length, roll, carry, tumble, or drag them to and into the water, and load them with stones and earth to sink and hold them. They work heartily, and assist each other in the most efficient manner.

Before placing the logs in proper position, they strip off the bark and store it away for winter provision; and they also provide an additional supply by taking the small branches, diving with them to the foundations of the dam, and carefully fastening them to the logs. And then, in winter time, when a fresh sup-



HOW THE BEAVER CUTS A TREE.



BEAVERS CUTTING LOGS.

ply of food is wanted, they have it near by ready for use. They are especially fond of willows, poplars, elders, and birch trees. In summer they feed upon fish, fruits, and plants. With their dam securely built, they have a good supply of water, in which they swim, and work, and play, and the closeness of the fur coats they wear, the paddle-like tail, and the webbed feet, come into full use.

Beavers' houses are rudely built, but are sufficient for all the wants of their occupants, and are used only in winter time. There are no "spare rooms" or "best chambers," no "parlors" and rooms for special occasions; but the houses are always of the suitable size for the number of occupants, usually three or four parents and six or eight young beavers. In building their houses the beaver takes mud from the edge of the bank, and stones and wood, and carries the material between his fore-paws and chin, and placing it where he wants it, turns about and gives it a hard slap with his broad tail. They seem to have no other design than to build a strong and warm structure, and great diligence and care are exercised in accomplishing the task. The partitions in these houses, which some writers speak of, are simply portions of the main building, which the sagacious beaver has left to support the roof, similar to the supports left by underground miners. Late in the au-

turn, generally just before frost, the beavers cover their houses with a thick layer of mud; and as this freezes hard, it makes a strong protection against the wolverine, their constant enemy. The building operations usually begin the latter part of August, although the material is often collected earlier in the season, and as soon as the interior is finished, all the projecting twigs and branches are cut off, and packed into the walls, and plastered over. a large stock of food is laid in, with an extra supply under water, as before stated. The houses are so built that entrance and intercommunication are by water only; and in winter time the hunters strike the ice, in order to ascertain if they are near the underground openings of a beaver's lodge. When satisfied of this, they cut away the ice and close the entrance to the house, and then carefully "sounding" the passage-way, reach the house and capture the inmates.

The "castoreum," of which we have spoken, is the chief reliance of the beaver-hunter. The animals are strangely attracted by it; and if they smell it, they will sit upright, sniff in all directions to detect its location, and really squeal with excitement. The hunter, taking advantage of this propensity, always carries a supply of castoreum in a tight vessel, and, when he finds a good place for a trap, uses it for bait. The trap is usually laid so as to be a few inches under water, with the bait projecting a little above the surface. Any beaver which scents the bait will certainly come to it; and young ones are sure to be caught, but old and experienced beavers will oftentimes not only avoid capture, but render the trap useless. Instead of trying to take the



HOMES OF THE BEAVER.



Kwasind.

bait, they will pile mud and stones upon the trap until quite a hillock is made, deposit some castoreum of their own, and depart in peace. This curious substance, by the way, is secreted in two sacs near the roots of the tail.

There are idlers among beavers as among men; these do not dwell in houses, nor do they build dams, but burrow like common water-rats. They are always males, and several of them live together and keep a genuine "bachelors' hall."

The wolverine, commonly called the *glutton*, is, next to man, the beaver's enemy. He is a courageous, obstinate, and cunning animal, and as troublesome to hunters, by his tricks, as to the beavers. He resembles somewhat a young bear, is of a brownish color, and is regarded as a link between the badger and the polecat, and resembles somewhat a shaggy, brown dog. As wonderful stories are told of his cunning as of the intelligence and industry of the beaver.

Longfellow, in his "Song of Hiawatha," makes frequent allusion to the beaver; and the accompanying picture illustrates an incident in the sixth division of that poem, which is thus described:—

"Once as down that foaming river,
Down the rapids of Pauwating,
Kwasind sailed with his companions,
In the stream he saw a beaver,
Saw Ahmeek, the King of Beavers,
Struggling with the rushing currents,
Rising, sinking in the water.

"Without speaking, without pausing,
Kwasind leaped into the river,
Plunged beneath the bubbling surface,
Through the whirlpools chased the beaver,
Followed him among the islands,
Staid so long beneath the water,
That his terrified companions
Cried, 'Alas! good by to Kwasind!
We shall never more see Kwasind!'
But he reappeared triumphant,
And upon his shining shoulders
Brought the beaver, dead and dripping,
Brought the King of all the Beavers.

"And these two, as I have told you,
Were the friends of Hiawatha,
Chibiabos, the musician,
And the very strong man, Kwasind.
Long they lived in peace together,
Spake with naked hearts together,
Pondering much and much contriving
How the tribes of men might prosper."

And further on in the poem, in the seventeenth division, is a story of the beaver, which is too long to be copied here, but which we recommend our young friends to read.



LITTLE BUILDERS.

II. TERMITES.

LET us suppose ourselves to be resting in a South African plain, under the shadow of some sheltering rock, or lofty palm. You look around in weariness of spirit; when suddenly your attention is attracted by a row of columns standing clear and distinct against the horizon, like the dwarf pillars of a pygmy temple.

Approach these apparent columns, these seeming relics of a Lilliputian palace, and to your surprise you discover that they "are not what they seem;" that neither axe nor chisel has ever wrought upon them; that never were they designed or executed by man. To your astonishment, you find them to have been reared under the hot African sun by a nation of insects — a nation well entitled to share with the beavers and other claimants the honor of having been among the first builders. Yes; you are standing in wonder before the work of the so-called *white ants*, the terrible *termites*!

Although the beaver is a wonderful little builder, the termites are more artistic architects, and produce an edifice more picturesque and ornamental, as well as much larger and more imposing. These insects are not properly ants, though in their habits they closely resemble them, and are seldom found except within the tropics. A portion of them are provided with wings, though they use them only once. Like the ants, they are very industrious, and achieve the most astonishing results by their labors, so ingenious as to seem more like the work of intellect than mere instinct.

Like the bees they are divided into three classes — males, females, and neuters, or workers. They live together in communities, which appear to be as well-ordered as any society of men. They are exceedingly destructive to wood-work, and are a pest to mankind, though they have their uses in the economy of nature, one of which is to serve as food for birds, reptiles, and other ants. The most notable species is the *termes bellicosus*, which is the largest and most destructive of its kind. These insects are also the most distinguished as builders, and sometimes erect houses sixteen or seventeen feet high, and about the same in diameter at the base. These edifices are built of clay, tempered by some mysterious chemical process in the jaws of the in-



HOME OF THE TERMITES.

sect, and are nearly as firm and hard as the solid granite. They are so strong that, though honeycombed with galleries, and filled with chambers, they will support the weight of an African buffalo, which often climbs upon it in order to examine the distant plain, to detect the approach of the lion or other savage beast of prey. Beneath the conic structure there are subterranean excavations, full of wells, chambers, and galleries, quite as wonderful as those in the house itself. The builders of these remarkable abodes are only one fifth of an inch in length, and, compared with the size of the insects, they are infinitely more grand and imposing than any structure erected by man, not excepting the pyramids.

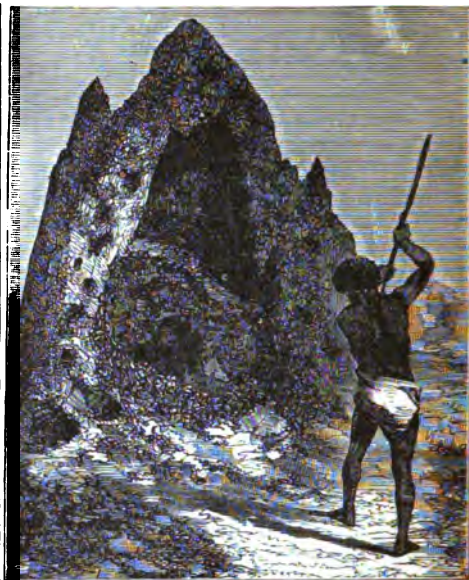
Every termite community is founded by a king and queen, which take their flight from some other establishment; and they seem to be provided with wings solely for this single journey of their lifetime, for they never use them on any other occasion. As soon as they are perfectly matured in the parent home, they take their flight, usually at the beginning of the rainy season. Though several thousand of them may start, only a few, perhaps not more than one pair in a thousand, will survive the journey, for their wings are exceedingly fragile. A single pair of them, overcoming the perils of the flight, takes to the earth at a point to which their instinct conducts them, and being of a royal race, they immediately receive the homage of the inferior order of their species, which at this period are on the lookout for "the powers that be."

The termites present some remarkable peculiarities in their development from the larvæ,

or eggs. Only a small proportion of them attain to the dignity of the perfect insect; and these, having wings, are the kings and queens, whose purpose of existence is to found new colonies. The males which do not attain to this perfect state of being are the soldiers, as they are called, distinguished by their immense heads and strong jaws. The females which are not perfectly developed are the workers. As under safe governments of the human race, where prudence tolerates only a small number of soldiers, because they are dangerous to the liberties of the people, nature has adjusted the proportion in the wisest and most secure manner, providing only about one soldier to every hundred workers.

As soon as the royal pair have alighted at their destination, the workers surround them, and actually take possession of them according to their mode of rendering homage to the sovereign power, and immediately install them in their new quarters. Their future residence, which it appears is also the royal mausoleum, consists of a chamber, built by the industrious insects around their majesties. In this tenement of clay, they are not only the sovereigns, but the parents of their future subjects. The king and queen lose their wings, and a most remarkable change begins to take place in the latter. While her head, chest, and legs remain in their former condition, the abdomen increases in size, till this organ seems to be all there is of her; in fact the owner becomes as large as a man's finger, and her majesty is utterly unable to move. In this condition she begins to lay her eggs, producing them to the astounding extent of eighty thousand in a single day.

The parent pair, in their original state, are larger than the workers; and their chamber is provided with a great number of doors, or openings, which are just large enough to admit the passage of the subjects, but too small for the egress of the king or queen, even if the latter were physically able to move. As fast as she lays her eggs, the workers carry them away from her and deposit them in the smaller chambers or nurseries which are prepared beforehand, and which are reached by the numerous galleries, all of them being connected with a central passageway. They are small, irregularly-shaped apartments, which, with the galleries and store-houses, fill the entire structure. The royal chamber is nearly on a level with the surface of the ground. It has a vaulted ceiling, pierced with round windows, and a smooth, level floor. Around it are the offices,



NATIVE DESTROYING A HILL.

if they may be called by such a name, which are vaulted chambers, connected by corridors, and occupied by the attendants of the royal pair. Next to the shell, or walls of the house, are located the store-rooms, providently filled with gums, vegetable juices, and other materials used in the process of building. Above this lower story, supported on pillars two feet high, is the floor on which the nurseries are placed. The partitions between them are made of particles of wood, cemented together with gum. Over these egg depositories is a lofty apartment, occupying the apex of the conic house, and about one third of its entire height.

The exterior crust of the building is about twenty inches in thickness. As may be seen in the illustration, it appears to be covered with turrets, or small domes. Several of these formations, much smaller and entirely detached from the principal ones, are depicted, but the larger ones were formerly of no greater magnitude. Several of these inferior mounds were first built, until a group of them was collected. The central one was always kept higher than the others, and all were increased as the demands for additional space required. Then the intelligent insects began to connect them at the base, filling up any openings made in the shell, till the whole were merged into one, with only the summits of the originals to indicate their former separate state. The interior appears to undergo

repeated modifications, until the lodgers therein are suitably accommodated.

The eggs are carefully watched over in the chambers till they are hatched, and then the young termites are tenderly nursed till they are able to take care of themselves. The king and queen seem to live lives of inglorious ease, without making any use of their regal power, and the vast community governs itself without interference from the ruling powers, all the soldiers and workers performing their various duties without direction or compulsion. They know how to do everything, and when to do it. It is thought that two or three years are required for the full development of the insect from the egg, though any such statistics must necessarily be rather questionable. In due time, be it long or short, the eggs are hatched, and a new generation of kings and queens appears, attended by the vast swarms of soldiers and workers. Choosing the most unsuitable time in the whole year, as it would appear to our fallible wisdom, the royal termites fly away upon their single life journey, to found a new colony. The vast number that perish in the attempt to do so, proves conclusively that only a few are born to reign, or even to be the parents of one of these stupendous families.

The humbler myriads in the home of their birth are crowded out by the multiplication of the species, and these in turn are compelled to look up a royal pair in order to establish a new household. The process is repeated, over and over again, until, if prudent nature did not provide for their extirpation in the fulfilment of the ends of their being, all Africa would become but a vast ant-hill. The wingless ones are much used by the natives, and even by some Europeans, as an article of food, and are eaten roasted like coffee.

The workers are always employed, and are exceedingly lively in their movements. As "walkists" they make splendid time. The soldiers, as becomes their profession, are very savage, and their bite is severe and painful, though not dangerous to a healthy person. When they fasten to anything or anybody, they adhere to it with the tenacity of a bulldog, and will be torn in pieces rather than release their hold.

The termites, as before observed, are exceedingly destructive, and nothing but iron and stone is safe from their ravages. The entire wood-work of a house has been known to be rendered useless by their attacks in a single season. They work in the dark, and, in the most cunning manner, keep out of sight while

they carry on their destructive labors; and often before their presence is suspected they complete their work. With the sharp instrument with which nature supplies their jaws they bore through the floor of a house to the leg of a table or chair, up which they tunnel a path for themselves, and actually move all through the wood-work of the article, wasting and destroying as they go, eating to within the thickness of a piece of paper of the exterior surface, but never breaking through it. The piece of furniture in this condition seems to be as perfect as ever; but at the slightest application of force, it falls to pieces. This may happen to every article in a room, and each in its turn crumble into dust upon the floor in the presence of the astonished owner. A whole staircase has been known to yield, and almost vanish into thin air, at the first touch of a footstep. A stake in the garden, a plank laid on a bed, and large trees, from the roots to the remotest branches, are riddled, even while they show no signs of the destroyer on the surface. A man, accidentally slipping on a staircase, grasped an oak post for support, but buried his hand to the wrist in the tunnelled wood, which the termites had invaded. Some boxes of documents were attacked by the insects, which mined a passage to them through the wainscoting of the room. They devoured the papers without regard to their official character, leaving the upper sheets, and the margins of each, so that, on opening the boxes, the files seemed to be in perfect condition, though there was really "nothing but a shell," a mass of rubbish, in them.

It will be acknowledged that the termites are excellent workmen and skilful little builders; but we have reason to be thankful that such unscrupulous laborers are not domiciled in our own land. They belong to that class of operatives whose works we prefer to admire at a safe distance. As builders they are worthy of something more than mere admiration, for they teach us an important lesson in the art of building. They build strongly and securely, with but little regard to mere ornament, and we may prudently imitate their example.



"THEY WERE LYING FLAT UPON THE GROUND, CLOSE TO A FALLEN TREE." Page 220.

ON THE WAR PATH

BY J. H. W.

MY grandfather had two neighbors who enlisted with him to serve in Rogers' Rangers, during the old French and Indian war. In those days the neighbors in newly-settled regions were not many, and all who lived within a radius of half a dozen miles were reckoned as such. These two were located so near to my grandfather's clearing that he was more intimate with them than with some others. They were young men, who had started in life somewhat like himself; and, being similarly situated, and worthy of each other's respect, it was natural that they should have a strong friendship for each other.

The Rangers, the first summer my grandfather was with them, were a part of the time in the wilderness around Lake George, acting as scouts for the regular army, counteracting the designs of the red allies of the French by craft and cunning equal to their own. They were almost always on detached service, and, of course, met with more peril and adventure than if they had been regular troops.

My father used to like to tell a story, which grandfather had told to him, of how the Rangers were surprised one morning, and Robin-

son — one of the two neighbors I have alluded to — made a prisoner. The other neighbor's name was Warner. The Rangers were to the westward of Lake George, and had been out for some days on a scouting expedition. They were returning to the main body of the English forces, and had encamped at night so near that they could rejoin them by an easy half-day's march.

Having seen no indication of any foe being near for some time, they relaxed their usual vigilance so much that they remained in camp longer than usual the next morning, that they might amuse and improve themselves by practice in firing at targets. When they finally started, it was in a long, single line, one man following another, in a style called "Indian file."

The line was so long, that the last men had not shouldered their packs, when a rattling volley was heard from the front, accompanied by the well-known warwhoop, followed by a weak, scattering fire from the Rangers.

Surprised as they were, the Rangers were frightened, and unable to make any effectual resistance; and, instead of standing their ground, they turned and fled, shouting to the others to save themselves, for they were surrounded.

At first thought this might seem like mere cowardice; but a second thought will show that no coward would have enlisted for such a service as the Rangers were required to perform. These men understood at once just how they were placed; and they were not so anxious for a glorious death as to stand between two fires, to be inevitably shot down and scalped.

Taking advantage of their carelessness, a large party of Indians had got so near that they had been able to form an ambush almost in sight of the camp, where such a thing would have been least expected. They had placed themselves in a heater form, as my father expressed it; that is, in two lines diverging from a point, somewhat like the letter V; and when the Rangers started, they marched in between these lines, clear up to the point, before the Indians fired upon them. Every Indian was concealed behind a protecting tree; but, being between the two lines, it would have been impossible for the Rangers to have concealed themselves; and they could only remain to be shot down, or run. And they would have been very foolish, indeed, not to do the last.

When the men turned back, the Indians followed them, filling the woods with their wild whoops, and swiftly tearing off the scalps of those who had fallen. Rogers, bareheaded, and almost frantic at the sight of his fleeing men, shouted out his commands and entreaties that they should make a stand, and repulse the pursuing foe. Rushing to the front, he came so near to the enemy that a huge Indian was tempted to rush forward and grasp him by his belt, uttering in his guttural way as he did so, —

"Big debble, now me got ye!"

But he was mistaken, for Rogers's quick knife divided the belt, and, dealing the Indian a thrust as he leapt away from him, he escaped, and succeeded at last in bringing his men to a stand.

Two or three of the foremost men in the line had been grasped by the Indians in the same way, and had not been so fortunate in escaping; and one of them was Robinson. These men were hurried to the rear of the attacking party, and securely bound; not with any intention of keeping them prisoners very long, but to give the savages an opportunity of testing their endurance by some of their torturous practices before putting them to death.

Rogers's men were not the ones to be easily beaten in a fair fight; and when they had come to a stand, and were sheltered behind the trees, in Indian fashion, they fought for some hours, their bullets telling on every exposed head or

limb of an Indian that could be seen. Many a red man was stretched in death; and some of the scouts were also brought low. But the attacking party finally yielded the ground, retreating from tree to tree so cautiously that their absence could only be known by the slackening fire.

Strange as it may seem, the Indians managed to get away all their dead out of immediate reach of their foe. Even while the shots were rattling the fastest, the fallen bodies would be spirited away, as it were, the Rangers seeing them sliding along the ground to the rear, drawn, probably, by lines that had been attached to them so stealthily that none had been discovered in the act of approaching or leaving them.

The Rangers pressed after the retreating Indians till they had driven them some distance, and then turned back to look after those who had fallen. It was then that they learned who and how many were carried away prisoners. It was not likely that any were absent unless they were prisoners; and there were four men missing, besides those who were lying upon the ground. Rogers decided at once that the enemy must be pursued, and those men rescued.

It would not be safe for the Rangers to rush forward as they might have done in an open country, for by so doing they might again expose themselves as they had done in the morning. It was necessary to move cautiously, sending scouts ahead, to make sure of the course the savages had taken, and to prevent being again surprised. Warner and my grandfather were allowed to go ahead, their impatience on account of their friend leading them to request it as a favor from their commander.

It was soon evident that the savages were in haste, probably owing to the near proximity of the main body of the English army. And when this fact had been ascertained beyond a doubt, the whole body of the Rangers moved forward rapidly for a while in pursuit.

Warner and my grandfather kept in advance, though never getting even a glimpse of the retreating savages. But there was no difficulty in following the broad, fresh trail they made. No doubt the scouts of the enemy were also watching them; and it occurred to them at last that it was hardly probable that they would make any halt so long as the pursuit was so close. Perhaps, after all, their purpose of overtaking them would be best accomplished by strategy; and it was decided to relinquish the pursuit apparently.

Accordingly, the main body of the Rangers

returned a little way, till they found a good camping-ground, where they made preparation as if to pass the night, and began to cook their supper. The scouts, also, made a feint of turning back, but were soon again on the trail, that they might keep informed of the movements of the enemy.

After dark, the Rangers left their fires burning, and moved silently forward again. The scouts brought them word, after they had been on the march some two hours, that the Indians had finally halted, apparently to pass the night. My grandfather and Warner had both seen them; and they were fearful, from the preparation that was going on, that the prisoners would be put to death before the main body of the Rangers could come up with them. They hurried forward, therefore, as fast as they could through the dark forest, guided by the men who had been before them.

They had several miles to go before they came in sight of the Indians' fires, which were in a hollow, that prevented their being seen till quite closely approached. Then a halt was made to reconnoitre, and decide in what way they could best attack them.

By the light of the fires the dusky forms of the Indians could be seen, some of them busied in preparations for the torture of their prisoners, and some replenishing the fires, while a large party seemed to be engaged in council. At first they thought that all the prisoners were still alive. They could see two of them very plainly, lying bound upon the ground, not far from two small trees, near to which a quantity of brush had been piled, and where several of the Indians were evidently preparing small pitch-pine splints, such as it was their custom to stick in the bodies of the prisoners whom they burned at the stake. But in a moment more they were struck with horror; for, on looking around for the other two prisoners, they saw them raised above the ground, their outstretched limbs bound to the tops of four strong saplings, which were bent towards them, and under the body of each a brush-fire was blazing, the flames ascending so far as to touch their bodies without fairly enveloping them. It was such a mode of torture as they had never seen or heard of being practised, and for a moment they were horrified by it. It seemed impossible that the victims could remain silent while enduring such suffering as those flames must produce, and the quick conclusion was that both were already dead.

It was hardly more than a minute that they looked upon this scene, yet it was sufficient for them to see and understand it all. An oath

was on Rogers's lips, and he was about to swear the direst vengeance on those who could perpetrate such cruelty, when, suddenly, the Indians all sprang to the different fires, scattering and extinguishing them in an instant, and all was buried in darkness. Not a sound was heard in that wide forest, and but for the glimmering sparks and dying brands, that still glowed faintly, it would have seemed as if what they had been looking upon was some optical illusion, which had been destroyed by a passing breath of air. But as quickly as the scene had disappeared, those men knew that their near presence had been discovered.

It was a hazardous thing, perhaps; but Rogers at once gave the order for his men to deploy and charge, in the hope of at least rescuing the two remaining prisoners. His men all carried rifles without bayonets, and, of course, little more was expected to result from the charge than the scattering of the Indians so suddenly as to prevent their carrying away the prisoners with them; though in a close encounter the knives which the men carried would be quite as effective, perhaps, as would be the bayonets of regular troops.

At the word, the men rushed forward, raising such a shout as had never resounded through those woods before. But no note of defiance came in reply; and when they reached the ground where the Indians had been, they swept over it unopposed, meeting no solitary form. Warner and my grandfather had rushed straight for where they had seen the prisoners; but when they reached the spot, they, too, were gone!

Having passed completely over the ground, and to some distance beyond, Rogers halted his men, not knowing which way to go. The Indians had completely baffled him. In the darkness of the night he could not trace them; and a light must be procured, at least, to enable him to do so. And a light would serve to expose his men to a lurking foe before it would reveal that foe's hiding-place. It was better, therefore, to remain in darkness till the rising sun should give them an equal chance. Standing there, listening for any sound of those who had disappeared, the dark forest was as silent as though no human being had ever passed beneath its solemn arches. The Indians seemed, indeed, to have vanished by enchantment; and the minds of the men were affected by a sort of fear they had never before experienced.

But they had no doubt they would find the bodies of the men they had seen roasting over the fires; and they returned noiselessly to

look for them. Indeed they were there. A smell of burned flesh pervading the air around guided the scouts directly to them; and the scorched and crisped bodies were cut from the straining saplings that held them, and laid upon the ground. A dying brand was fanned into flame, and held over the pain-distorted faces, to discover who they were. They were hardly recognizable, but neither of them was Robinson's; and the assurance was some relief to my grandfather's mind; for, though he could hardly hope that his friend would escape, so long as he was alive there was a chance that he might; and the slightest chance was better than would be the certainty that he was dead. Nothing could be done except to guard against an attack from the Indians, till daylight should come again; and, retiring silently to a safer place, a circle of guards were stationed, and the others laid themselves down to sleep.

The silence of the night remained unbroken, except by the occasional cry of some wakeful animal, or the rustling of wind-stirred leaves; and with the dawn of light all the men were on their feet again, inspecting their arms, and making hasty preparation for the renewed pursuit of the savages. The search for their trail showed that they had moved off to the left, or westward, instead of going directly from the approaching foe, as would naturally be supposed. The trail having been found, it was easily followed; and, keeping scouts in advance, to warn the main body of any impending danger, they went through the woods at a quick pace, every one being eager to overtake the retreating savages. There was little probability, to be sure, of recovering the prisoners alive; but every one was eager to get again within rifle-shot of those who had carried them away to such cruel torment, that they might at least avenge them.

They went forward rapidly for several hours; when, seeing nothing to indicate that they were any nearer to the retreating party than they had been at first, Rogers intimated that the circumstances would not justify any farther pursuit, and ordered a halt, for a short rest, before starting to return.

The disappointment of some of the men was shown by the remarks they made in their commander's hearing; whereupon Rogers, having remained silent till they had freely expressed their opinions, turned to them, and said that his duty would not allow him to go farther; but if Warner, to whom he now addressed himself directly, from his having expressed his mind the most freely, chose to

go on alone, and lose his scalp, he might do so. Of course he did not think that Warner would take him at his word; and he was a little surprised when the bold fellow replied that he felt grateful for the permission given, and that he might be assured he would bring back the prisoners, or the scalps of two full-grown Indians instead. Rogers was not the man to take back what he had said; and, finding that Warner was really in earnest, he told him he might select a man to go with him, thinking, probably, that two men would be safer than one in following an enemy. My grandfather was ready to improve this opportunity, being as ready as Warner to continue the pursuit, even alone.

Accordingly, after having refreshed themselves, they two continued on the trail, and had gone scarce a hundred yards before they were out of sight of their comrades, who, soon after they had disappeared, turned in the opposite direction, and retraced their steps towards the English fort.

Warner and my grandfather felt that they were running a great risk; and there can be no doubt but what they thought of the wives who were waiting for them at home, and of the little ones. But Robinson had a waiting wife and little ones also; and they did not forget that his love for them was likely to be as strong as their own love could be for theirs; and they were resolved to risk their lives in this way for the chance, though small it was, of rescuing him, and enabling him to return home with them.

The two men went forward swiftly but cautiously, in the shade of the overarching trees, seldom speaking to each other; and when they did, it was always in tones so low that they could have been heard but a few yards from them. They hardly halted more than a moment at a time during the whole afternoon; and the trail they followed grew so fresh towards night that they were assured they were overhauling the Indians, and that they could not be very far ahead of them.

In that dark forest the shades of night were gathering around them even before the sun had set. But when they thought they had seen the last rays of the great luminary for that day, they came suddenly in sight of an opening in the trees before them, and in another moment stood upon the bank of a shallow stream of water, of some twenty yards in breadth. The stream flowed from the westward directly towards them; but where they struck it its course was turned southward, almost at a right angle with its previous course.

It seemed to come down in nearly a straight line from the west, the opening which it made between the trees enabling them to see the sun, now showering his last golden rays full upon them, just descending behind a range of forest-covered hills.

Those cheering rays, coming upon them so unexpectedly, at such an hour, inspired them with a belief that they would succeed in saving their friends' life; and, filled with the sudden faith, they stood almost indifferent as to whether they were seen by any lurking foe, till the last inspiring ray was quenched by the dark gray hills before them.

They knew that the Indians would be sure to improve such an opportunity to blind their trail. The water was so shallow that one could wade in it almost anywhere; and a very slight inspection showed that the Indians had entered it at the point where they stood. Whether they had gone up or down was a question they had no means of deciding without following; and they were perplexed as to which way they should go. After a little reasoning, it seemed to them that the Indians would take the course which their pursuers would be most unlikely to follow, if their object was to escape from them altogether; and as that would be down the stream, they followed along its bank to the southward. They moved cautiously, looking warily around them at every few yards, for now they were more liable than before to come upon a foe at any moment. For the last hour before they had reached the stream, the trail had been as fresh as if just made; and if the Indians had gone down it, they were confident they would come upon them encamped not very far below. By the time they had gone a mile, it had got to be so dark that they could not distinguish objects at any great distance, especially among the trees; and they were obliged to move even more cautiously than before.

They were determined to come up with the savages, if possible, before resting; and they kept on, though the darkness made their way difficult and slow. At last they detected a faint glow of light, deep in the woods to the left; and, after watching it for a moment, they turned their steps in that direction. It was not so far off as they had expected. Suddenly they came in full view of an Indian camp, having ascended a slight ridge that hid it from view, and saw, as on the night before, several fires, with the Indians engaged in various ways around them.

They looked for the prisoners, and were greatly relieved to see them still alive, sitting

upright, with their arms bound behind them, and no preparation being made for their torture, that they could discover. They could not account for this, except by supposing that the Indians had decided to reserve their prisoners for some other purpose, or, perhaps, till they could invent some new manner of torture that they had never yet practised.

It was a great relief to find that the prisoners were alive, and, apparently, in no immediate danger; and the fact fully confirmed them in the belief that they would finally accomplish their rescue. To attempt it openly would most certainly insure their own death; and they could only wait for some favorable opportunity to reach them without being observed. It was a fortunate circumstance, probably, that the prisoners sat by themselves, so far from the fires that they were not in their full glare, and on the side nearest to the two scouts.

Whatever fate was in reserve for the prisoners, it was quite certain they were not to meet it that night. There were no fires burning except those which the Indians were sitting around, and no preparation for any that could be seen. The scouts placed themselves where they would not be likely to be discovered, and remained, watching the movements of the Indians. They were lying flat upon the ground, close to the trunk of a fallen tree, with their heads raised above it, and had not been there very long before a solitary Indian — a guard, probably, to warn the others of the approach of an enemy — came up so noiselessly that they hardly heard him, and sat down upon the fallen tree, not twenty feet from them. Had they been on the other side of it, he would certainly have discovered them, for he sat with his face towards the fires, upon which he gazed for some time, a little too careless of what might be behind him to make a safe guard. The scouts hugged the log closely, hardly breathing, for fear that he might hear them. Very fortunately, there was no moon shining; and the bright rays of the fires would naturally blind the Indian's eyes to things that were so immediately in the shadow of the log. And so it happened that, after sitting for a time, the Indian got up and moved away as noiselessly as he had come, never seeing them.

When he had gone, the scouts raised their heads again, and saw the fires burning low, and some of the Indians already stretching themselves out upon the ground, with their feet towards them, to sleep; two or three went away into the darkness, in different directions,

with their arms in their hands, probably to increase the number of guards around the camp; and others approached the prisoners, to make them more secure, it was soon evident, for the night. This was done by extending them upon the ground, with a pliant young sapling across the body of each. Four powerful savages then laid themselves down by the prisoners, upon the ends of the poles, making it impossible for them to attempt to rise without its being known. When the prisoners had been thus secured, the fires were replenished, so that they would not soon go out, and then all the other Indians that were in sight stretched themselves upon the ground around them to sleep.

Warner and my grandfather were fully sensible of their own perilous situation, and they could see little chance of releasing their friends without arousing those who were at their sides. While they watched the sleeping Indians, and saw the fires burn out and sink to smouldering embers, they consulted together in whispers as to what they could do.

There was but one way, and they would have avoided that way had it been possible. It was to creep upon those swarthy men who held the prisoners so securely between them, and plunge their knives into their hearts. They consulted long whether to do it. There was no alternative, except to creep away, beyond the guards, and leave the prisoners to their fate. That was not to be thought of; and they decided to do the first, though they well understood that unless their first blows were true, their own lives would pay the forfeit. They could only deal with two at a time; and even a slight rustling might disturb the others, and insure their own death. But they could not forsake their friends, and the attempt was resolved on. They might be discovered by the guards, but they must venture.

The fires had burned so low that the light they gave did not greatly endanger them, while it served to show them clearly where the prisoners were. Hugging the ground closely, with their knives in their hands, — they had left their rifles by the side of the log, as being worse than useless at such a time, — they drew forward so slowly and cautiously that, even if any wakeful savage had been looking towards them, he would hardly have noticed them.

They came within reach of their intended victims, each being at the side of one of the Indians who guarded Robinson. Robinson was awake; and when they raised themselves that they might the better deal the fatal blows,

they saw his eyes turned upon them. Though he recognized them, he remained motionless, understanding their purpose. Their knives were pointed at the lives of the two who were beneath them; and when Warner whispered, "Strike!" they descended, producing only a straightening of the forms and quivering of the muscles of those whom they touched. Without another whisper, they passed to the sides of the others, a few yards distant, and buried their knives in them in the same way, so silently that the prisoner, who was sleeping between them, did not awake. Bending down, Warner whispered the man's name in his ear, at the same time shaking him gently. In an instant he was aroused, and understood who was near him, and in another the pole that had held him prostrate was removed, his thongs were cut, and he was free.

Instantly he had dealt the last blow, my grandfather returned to Robinson, and released him. With only a whispered word of acknowledgment by the liberated man, the two crawled away together towards the fallen log. They all reached it safely; and, recovering the rifles, they crawled forward in the darkest depths of the woods, in the same way, till they felt sure they were beyond the Indian outposts, when they rose to their feet, and hurried forward by the same route over which they had come. They had at least half the night before them; and, as the Indians would not be likely to start in pursuit till daylight, if they should pursue at all, — of which they had some doubt, — they had little fear of being overtaken.

Whether they were pursued or not, they never knew, for they reached the fort, and rejoined the Rangers, on the second morning after, without having seen any more Indians. And no one congratulated more heartily than did Rogers himself, who ever after entertained a high regard for both Warner and my grandfather, showing it on several occasions by sending them on expeditions which he would not willingly intrust to others of his command.





"MY GRANDFATHER RAISED HIS RIFLE, AND FIRED." Page 222.

A STORY OF THE OLDEN TIME.

BY J. H. W.

WHEN my grandfather was twenty-one, he married Mary Barnes, who was eighteen. This was a little more than one hundred and twenty years ago.

Mary was the daughter of Squire Barnes, who lived in Brookfield; and when my grandfather married her, he drew her home — a part of the way at least — on a hand-sled, over the frozen snow up into the wilderness ten miles north, where he had taken up land and built a log house, that he might have for himself and Mary a home. It would have been a lonely, solemn place for one alone; for there was nothing but a dark, silent forest around, and they were miles from any other settler. But being together, they passed a very pleasant winter, — having been married on New Year's; and when spring came, my grandfather had so large a clearing that he was able to begin the cultivation of a little land.

It was somewhat romantic—the way in which they lived; but, after all, there are not many who would prefer to live so. The only neighbors they saw much of that first winter were the wild animals that lived in the forest around.

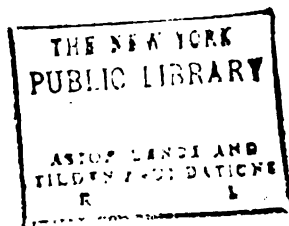
They did not see them often in the day, though sometimes a fox would stop for a moment to look at them, as he went past in the edge of the still uncut timber. But during the long hours of night they would often hear the voices of these forest neighbors breaking weirdly upon the solemn stillness; though, with strong walls around them, and shutters closed, and a wooden bar across the door, they had no reason to fear them.

One night, however, they were a little frightened. The snows had fallen deep that winter, and had so drifted around the house that upon the back side, where there were no windows, it reached to the low eaves. They were sitting before the fire on the night I have in mind, talking of their future, — building little air-castles, as even married folks sometimes will, — and were all unmindful of anything but themselves, when, suddenly, they were startled by the sound of footsteps, moving cautiously upon the roof above them.

Mary's heart leaped, and my grandfather's voice was instantly hushed. They listened, breathless, and heard those cautious footsteps moving about upon the roof. Who could it be? Mary's first thought was, Indians; and she whispered it to my grandfather. "No," he replied, "it cannot be Indians; they are



THE FASHIONS OF THE OLDEN TIME.



all at peace with us now, and there are none within a long way, except the Nipmucks, and of course we have nothing to fear from them. It cannot be Indians."

In a moment more there seemed to be two persons moving about upon the roof, and they became bolder, and made more noise. Then my grandfather said he would find out what was there; and though Mary strove to dissuade him, he rose and took down his rifle, made sure that it was charged, unbarred the door, opened it, and went out. Though Mary would have prevented him, she would not let him go alone; and, taking up the axe that was lying in a corner, she kept near to him.

The moon was shining upon the white snow, making it so light that they could see every-



Leaving home to fight the Indians.

thing about the house distinctly. Going but a few steps in front of it, they were enabled to see two large wolves, standing with their forefeet upon the ridge, looking at them as if they wondered who they were. Without a word, or a moment's hesitation, my grandfather raised his rifle, and fired,—effectually quieting the curiosity of one of them, and so frightening the other that he suddenly disappeared.

My grandfather drew down the dead one, and placed him where he would not freeze till morning, as he wished to save his skin; and then they passed the remainder of the night undisturbed.

Wolves were very common in the forests in those times; and not only wolves, but bears.

My grandfather had a way of taking these last in pits, which he dug, and covered slightly, so that they would not be noticed; then formed a triangular enclosure leading to them, and placed a tempting bait so that it could be reached only by going over the pit. But he did not spend much time in this way till he had got his little farm well started, and had cornfields, which the bears used to like to visit. The bears did not trouble him much at first, and he did not mind them much.

My grandfather had been married but a few years when the French and Indian war broke out; and then, with two or three more young men who had settled within a few miles of him, he enlisted in a company known as Roger's Rangers, and went towards Canada to fight the Indians. It was hard for Mary to part with him, to go on such a dangerous service, far away into the wilderness, where she could not hear from him for months together; but she said he might go, and she would take care of the children and of the little farm alone while he was away. They had two children then, a girl and a boy; little Alice, the oldest, being about five years of age.

My grandfather finished the "spring's work" before he went away; that is, he had the corn planted, and all the crops that he intended to raise that season fairly started. Mary thought she could attend to the cultivation of them alone, and do the most of the harvesting in the fall. She had a cow, and a horse, or a mare, rather,—but a mare is a horse, I suppose,—and two nice shotes. She was sure she could take care of these, and hoe and harvest the crops, all but the hay; and a neighbor, who was not going to the war, agreed to do the haying, and assist her in anything she could not accomplish herself.

So my grandfather kissed Mary and the children, one bright morning, swung his knapsack upon his back, shouldered his rifle, and took the path through the woods that led to the rendezvous where he was to join the others who were going with him. Then Mary sat down in her open doorway, feeling as if her pleasant home had suddenly become desolate. Her nearest neighbor, and the one who was going to do the haying, was a mile away, and there were none, except her children, whom she could see, or to whom she could speak, without going that distance. Of course she loved my grandfather very much, or she would never have gone up into the wilderness with him in the way she did; and now that he was gone, she feared that she would never see him again alive, and her heart was very

heavy. But she was not a woman to repine long — to sit and weep when it would do no good; and, rising up, she kissed the children in a way she had never kissed them before, and went about her work.

The summer passed away, and Mary accomplished all that she had proposed to do. Winter came on, but it found her well prepared. The neighbor, Captain Green, had got the hay, assisted her some in harvesting the other crops, killed and packed one of the shotes in her pork barrel, and had cut and drawn to her door a great pile of wood, enough to last her all winter. She had heard from my grandfather several times, and knew that he had been frequently imperilled by skirmishes with the Indians, and once had narrowly escaped being captured by them; but she did not know when she might expect his return, and thought it probable he might be gone all winter.

The snows came early, and they soon accumulated to a great depth. I think there is no question but that they had more snow in those old times than we have now. Even since I can remember, the snows used to be deeper and remain longer than they do now; at least it seems so to me. But Mary had everything she needed close at hand; and after every storm, Captain Green would come with his ox-team, to break out a road to her house, and learn how she was getting along.

The cold was severe, also, that winter, and it is probable that the wild animals in the woods suffered some in consequence. One night, about the last of December, Mary was sitting before her cheerful fire, all alone, the children having been snugly tucked away in their little bed. It must have been past nine o'clock; but how late it was, Mary had no means of knowing. She had no clock; and only when the sun shone could she tell the hour it marked upon the pewter dial that was nailed upon the top of a post before the house.

Mary sat before the fire that night, not asleep, but dreaming. Perhaps some would say musing, but I call it dreaming; for she was almost unconscious of the thoughts that came and went as she sat motionless, looking into the glowing embers of the sinking fire. Now and then they would flicker up into new flame, and sink again, showing her many shapes and forms, as it were, among which she could see red-coated troops, gray-clothed rangers, and swarthy savages, with the bright-colored blankets, that had been used to buy them over to the enemy, around their shoulders. She could see the gleam of muskets, sometimes in long lines, and then in the hands

of those who were stealthily approaching to ambush some unsuspecting party who were sitting carelessly around their camp-fires. The muskets would rattle, the startled men would spring to their feet, in the midst of a cloud of smoke, which enveloped them so quickly that she could never learn their fate. Such were the things which Mary saw in the dying fire, and which held her entranced, because, among those forms that came and went, she so often recognized my grandfather.

It may be that she was almost asleep, — yet I do not think she was quite, — when she was startled by a sound that made her heart leap, and instantly aroused all her drowsy senses. The sound came from the stable; and it was the voice of the mare, raised in such a cry of terror as she had never heard before. It was one fearful shriek, breaking wildly into the silence of the night, which was the same again as soon as it was uttered.

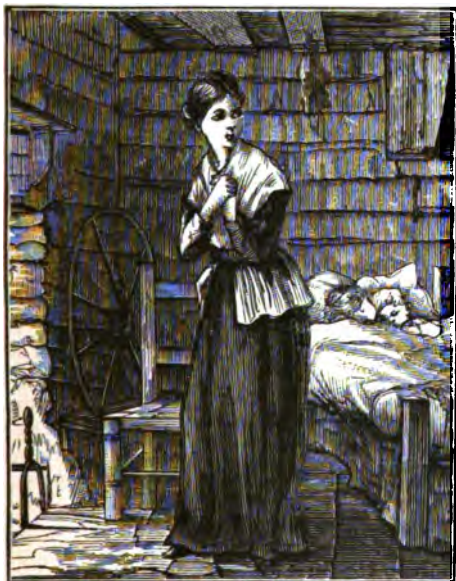
Mary sat motionless and almost breathless, waiting a repetition of the fearful sound. A moment passed, and another wild cry of terror raised her, without any conscious effort of her own, to her feet. But she moved no farther, standing as motionless and breathless as before. A third cry soon came; but Mary could hear no other sound, and she stood still, wondering what it could be that so frightened her mare, but fearing to go out to see.

She stood, irresolute what to do; but no more sounds came, till perhaps five minutes had passed; and then the cry was not from Jennie, but from her sow, which she had left at sundown reposing in her sty, a little lean-to structure built against one end of the barn. In a moment her quick mind comprehended the situation. That prolonged squeal — it was still piercing the night-air — told that some prowler of the forest had been trying to enter the stable, thus frightening the mare; but, having failed in that, had finally found the warm sty of her sow, and intruded therein, for the purpose, of course, of taking the life of, and satisfying its hunger on, the porcine dame. It was all clear now, and she hesitated no longer what to do.

The night was dark, for clouds had been gathering, and she had said to herself, when she was doing her chores, that more snow was coming. But, without minding the darkness, she unbarred the door, grasped the axe, and went out, carefully closing the door behind her. The cries of her sow were urgent, and she sped towards the rail enclosure that surrounded the sty, over which she clambered, and stood by the low door — to enter which

would imperil her life. She hesitated, and could see no way to help the poor animal, whose calls were growing fainter with every expiring breath. She could at least avenge her death; and she waited by the low door, with upraised axe, till the forest prowler should appear.

The cries ceased, and for a time there was a shuffling and "suffling," showing that the animal, whatever it was, was gorging itself upon the body of its victim. At last this ceased, and then a dark form emerged suddenly through the door. The ready axe descended, and the dark form settled and remained at Mary's feet. But another followed, so quickly that she had not time to raise her axe for a second blow before it leaped the fence and was



"She stood irresolute."

gone. They were wolves, she was sure; but it was so dark that she could not see them plainly. The strength that had supported her seemed almost gone; and, without delaying another moment, she got back over the fence, and returned into the house, dropping the cross-bar into its sockets when she had closed the door, and sunk down by her children's bedside. Then she sought new strength from a Source that never fails; and having found it, she made her usual preparations, and retired for the night.

The next morning, before daylight had appeared, the fire was crackling and blazing upon her hearth, and she was busied in preparing her own and the children's breakfast.

The daylight was longer in coming on account of the thick clouds; but, as soon as she could see outside, she went to the scene of the last night's conflict, and there she saw a large, gaunt wolf, lying stark and stiff, just as he had fallen by her axe. Looking within the sty, she saw her sow, also stiff and cold, but not so badly mangled as she had expected. If she could but get Captain Green and his man to come over, they could still save the greater part of it, and her loss would not be so great; and, though a storm was threatening, she resolved to start for his house as soon as she should have cared for her other animals, and given the children their breakfast.

She seldom left the children alone longer than it was necessary for her to be engaged at the barn; but Alice was old enough, she thought, to be safely left in charge of Benny till she could go to her neighbor's and return; and she set out as early as possible, not expecting to be away more than two hours at the longest. An hour would have been sufficient, had the walking been good; but only a sled track had been made through the deep snow, and her progress would be slow and difficult.

The clouds were white and fleecy, and hanging low; and hardly had she left her door, before the snow-flakes began to fall, drifting before a light wind that was coming from the eastward. She hurried, that she might return before the storm should be very bad; and it was but a few moments till she was out of sight of her house, the snow-flakes coming thicker and thicker, and the wind rapidly increasing in force. The walking was hard, and the falling snow, drifting across and settling into the track, was making it continually harder. But she hurried forward, till she was finally compelled to stop for a moment through sheer exhaustion. Then she realized more clearly how fast the storm was increasing. The air was so filled with the driving snow, that she could see nothing beyond a few yards from her, and the track had filled so fast that it was hardly distinguishable. Turning to look towards home, from which direction the storm came, she was so blinded by it that she could see nothing clearly, and she was frightened.

Then Mary would have returned; but she was sure she had gone more than two thirds of the distance, and it would be easier to reach Captain Green's than to go back. She doubted whether she could find her way back; for, as I have said, she was blinded when she faced the storm. She could not follow the track, —



"My grandfather pressed Mary in his arms."

indeed, there was none that was of any service as a footway now, — and she would be as likely to go wrong as right. She was frightened, not for herself, but for her children, because she felt that she could not return to them.

And again she pressed on, increasing the distance that was between her and those little ones to whom she would have so gladly returned. She had not gone far, however, before she was sure she had strayed from the track; she could see it no longer, and she sank so deeply at every step, that she could scarce proceed at all. The storm was continually increasing, and now raged furiously. Almost in despair, Mary stood for a moment in the midst of the blinding snow, with hands upraised and clasped, imploring God. Then, as if strengthened, she again pressed on; but whither, she knew not.

She was led aright. Struggling forward till she could hardly go farther, she saw at last, not far from her, a dimly defined bank, which proved to be Captain Green's barn. Then she felt safe; but again she implored God for her children. A few struggles more brought her to the door of the house; but she had hardly strength to open it. When she did, and appeared before the captain's family, they were filled with astonishment and alarm. She was like a statue of snow, and for a moment speechless.

When Mary made her story known, both the captain and his wife tried to assure her that the children would be safe, though they well knew that no human being could reach

them till the storm should subside. Mary was grateful for their good intentions, but she understood the whole matter as well as they, and felt that she must trust them wholly with Him whom she had already besought. Her hope was, that the storm would so subside that she could return before night; and knowing that it was almost as impossible for the captain to reach her house as for herself, she sat down to wait.

The captain was a man of more means than my grandfather possessed, and was an older man, and had a larger family. He had several sons and daughters, and some of them were old enough to be of much assistance, both in the house and out. Besides, he kept a hired man, and he had two yoke of strong oxen in his barn; but with all these he could not make his way to Mary's house in that storm.

It was a dark and dreary day for Mary. But for the great blazing fire that was constantly going in the wide chimney, the large family room would have been very gloomy. Even at noon, the darkness outside was like the coming on of night, and through the small window-panes nothing could be seen but the driving, swirling snow. As it drew towards the middle of the day, Mrs. Green prepared for dinner; first, by hanging upon the great crane over the fire a large iron pot half filled with water. Then she sifted a quantity of Indian meal, as yellow as sands of gold; and when the water boiled, she called one of the boys to help her; and, while she dropped the meal into the boiling water, a little at a time,

he stirred it briskly with the wooden ladle. In a few moments the meal was all in and the stirring completed, when the crane was swung out, and the pot lifted off. Then its contents — as nice hasty-pudding as ever was eaten — were ladled into a great wooden bowl, and placed upon the table, by the side of another that was filled with milk; and, with smaller bowls of wood, or basins of pewter, and spoons of the same material, the family drew around and helped themselves. Mary had no heart to eat; but the captain told her that she could bear trouble better on a full stomach, and urged her to partake. To satisfy him, she made a show of eating, at least; and when dinner was over, she sat again by the window, waiting for the storm to subside.

But in vain was her waiting; for the hours passed, and the darkness of night was again over the earth, and still the storm raged as furiously as ever. The thick clouds and the driving storm had made it a short and dismal day; yet to Mary it had seemed very long. When night came, and she felt that those little ones, if still alive, must pass it alone, she was in an agony of mind, and she almost doubted whether, after all, God was that kind and protecting Father that she had thought him to be. Her good neighbors strove to cheer her, though they must have well known how impossible the task. If Mary's children had been with her, that fire-lit room would indeed have been a most cheerful one; for there the family sat encircling the broad hearth on which the logs were blazing and crackling, while the storm could be heard rushing through the yet uncleared forest that covered the hills, and, brushing around the walls of the house, driving the snow through the cracks, and piling it against the window-panes; and anon some intercepted gust would whirl and roar in the wide-mouthed chimney, puffing out the blaze and the smoke towards those who sat below in the cheerful light of the fire. But all this only increased Mary's misery; for Alice was but five years old, and little Benny only three. If no other accident should happen to them, their fire would go out; and would they not freeze? What if the door should be burst open by the driving wind, and the wolves — She could not bear to think of it. But she sat with the family, and tried to appear cheerful.

The captain's family retired early, as was the custom in those days; and Mary wore away the long, sleepless hours of night upon a low bed, close up under the roof, where it

seemed to her as if she could almost feel the snow which she heard swirling overhead. She suffered almost beyond endurance, beseeching, doubting, hoping, fearing; sleep there was none for her.

And it was thus till the midnight hour had passed; and then, she thanked God, there was a lull. The winds died away, and the roar of the storm over the hills sank to fitful gusts; then occasional murmurings, and whispings of stray waifs on the roof overhead — and all was still.

She knew that the storm had passed, and, rising from her bed, she tried to peer out into the night through the little window that was in the gable close to its head. The snow almost covered the panes, yet she could see stars glittering above, and a whitened forest below. She strained her eyes in the direction of her home, but all she could see was the white robe that covered the earth. She wanted to awaken the family, that she might start immediately towards home; but, restraining her impatience, she returned to her bed, and there waited the usual time to rise.

Hours before the sun appeared, every member of the family was astir. A path was shovelled to the barn, the oxen fed, the sled dug out, and everything made ready to start as soon as breakfast could be prepared and eaten. Before daylight had fairly dawned, the team was hitched up, and the four strong oxen drew the sled, with Mary and the boys with their shovels upon it, slowly through the snow. It was heavy, tedious work, and the team had to stop often to rest; when all but Mary would go ahead with their shovels, to break and loosen the snow. The sun rose above the hills before they had made half the distance; but, just as its rays struck upon them, they were surprised to see a thin column of smoke rising straight up before them, as if it came from the chimney of Mary's dwelling. Her heart bounded; but whether the smoke meant good or evil, she did not know. The house was not yet in sight, and she was still tortured by suspense.

They had proceeded but a short distance farther, when the forms of two men were seen struggling through the snow towards them as they crossed a low ridge that hid the house from view. They were more surprised than before, for how was it possible for human beings to have arrived there during that storm? Who would be likely to arrive there, unless — but Mary dared not hope it was he.

They pressed on, and the men drew near. One of them was an Indian, and Mary was

startled by the discovery. But the other was surely a white man; and in a few moments more her heart beat very fast, for — she could hardly be mistaken — it was her husband!

Struggling on, the two parties came together; and my grandfather pressed Mary in his arms, and asked her why she had been away from home in such a storm. While the team rested, each explained to the other in a few words what had brought them there.

My grandfather's story was, that, on the night before the storm, he had camped, with the Indian who was with him, — who was his fast friend through his having once saved his life, — but a few miles from home. He had intended to reach home that night, but the snow prevented; and, starting as soon as it was light the next morning, they had hastened forward as fast as they could on account of the coming storm. They had arrived at the house, almost exhausted, to find Mary gone. The children were frightened at seeing them,

for Alice did not at once remember her father; and it was some time before he could understand that their mother had left them, just as it began to snow, to go to Captain Green's. Why she had gone, they did not know; but, believing that, if she had gone there, she was safe, and knowing from his own experience that she could not return till after the storm, my grandfather did not feel greatly alarmed, but made himself and his friend as comfortable as possible, well convinced that he would not see her that day.

Now Mary cared not for the snow, and the joy and gratitude of her heart were so great that she wanted to sink upon her knees at once, and thank the good Father, whom she had almost doubted, but who, she now saw, loved her still. Together they returned, a joyous party; and never was there a happier household than was my grandfather's when the sun again went down, and they were all gathered around the fire in his own home.



GIRLS IN OLD TIMES.



"THE SILENCE WAS BROKEN BY THE SHARP REPORT OF A RIFLE." Page 233.

BAFFLED REVENGE.

THE WHITE MAN OUTWITS THE RED.

BY J. H. W.

THE neighbor Warner, who had been with my grandfather in the Rangers, lived near the same stream that wound down through the valley past my grandfather's clearing, about three miles distant from him in a straight line, although it was considerably farther by the course of the stream. When I was a boy, and lived at home, on the same farm my grandfather had cleared, several of Warner's descendants also lived upon the same place that he had cleared. There was no path I loved to follow so well as that which led down through the pine woods, along the river's bank, towards the Warners', where, for miles, I would see no human being, and where I could well imagine that all remained as it had been a hundred years before.

Spreading out to the eastward from this river of beloved memory was a broad plain, in the midst of which had stood Warner's dwelling, much the same in all respects as had been my grandfather's; both of which, in the time of my boyhood, had been long superseded by more modern structures.

In the midst of the silent forest, and not far from Warner's house, was a pond, — a little, miniature lake, — on the shores of which, at the time when he settled there, the sound of the white man's axe had never been heard. A small canoe, concealed by some outgrowing bushes on the shore, when not in use, enabled the settler to land such of the innumerable wild ducks and geese that frequented the little lake during the migrating season, as his unerring rifle compelled to remain; and another canoe in the river served the same purpose there.

There was rare fishing in that river at the time when Warner and my grandfather settled upon it; and it was still good when I was a boy, which was one reason why I loved so well to follow that forest path.

Warner's deeds while with the Rangers had made his name well known among the wild warriors whom he had so often met in the woods, upon the war-path, and had caused his life to be sought for. Many a sight had been drawn on him, and many a bullet intended for him had just missed its mark, and more than one savage had grappled with him for his life only to lose his own.

Before the close of the war, and the conse-

quent disbandment of the Rangers, he had become aware that he had one mortal enemy among the hostile red men. A friendly Indian had informed him of the fact that a brother of a warrior whom he had slain was seeking for his life; and he knew that he would not be satisfied without it, even though years should intervene before he could accomplish his purpose. Warner knew well that an Indian required blood for blood, and that nothing but the life of the one who had taken the life of a relative would satisfy him; and the knowledge that his life was thus sought by no means added to his peace of mind. So long as the war continued, he was more careful about being away from the Rangers alone; and whenever a bullet came nearer to him than usual, he felt that it had been directed by the avenging brother.

But the war ended, and he returned home uninjured, though not without taking every precaution against being followed, using the most subtle devices he could think of to throw the avenger off his track.

He believed he had succeeded, for, as I have said, he arrived home safely; and for more than a year nothing occurred to indicate that his homeward route had been traced. But early in the second summer, Robinson — the man whom he and my grandfather had rescued from the Indians — came to him one day while he was hoeing his corn, and told him that another neighbor, who lived farther away, had met a strange Indian, who had inquired if there was not such a man as he living about there. Mistrusting that his inquiry was made with no good intent, the neighbor had told him that he did not know of such a man; whereat the Indian looked a little incredulous, and soon left him.

The neighbor lived nearer to Robinson than he did to Warner; and when he was sure that the Indian had got so far away that he would not come upon him again, he went directly to Robinson's house, to impart to him his suspicions. Robinson, believing the strange Indian was he who sought to avenge a brother's death, had come directly to put Warner on his guard.

"Very likely it is he," said Warner, coolly, in reply to Robinson's communication; "and if he has got so near, he won't be long in finding me. I think, however, he'll let me live a little longer, if I can see him."

"If he has come so far, he won't be satisfied to go back with anything less than your scalp," remarked Robinson.

"No; perhaps not; but, as I have no hair

to spare, I'll have to fix it some other way. If I can only get a word with him, I think there'll be no trouble. You can trust me to manage that thing, Ben."

"I don't know. If you see him first, perhaps you can; but I guess there'll be small chance for that. If his piece should miss fire, or his aim be unsteady, you'll have a chance; but not much otherwise, I guess."

"Don't you worry a bit. My chances are a hundred times better here than they were that night I let you up, after the Indians had carried you so far away from camp. Just go home, Ben, and make yourself easy; and if the fellow inquires of you, tell him just where he can find me. That will be the best way now."

"If he should call on me, I'd shoot him, if I knew it wouldn't be considered murder; but I suppose it would, as it's peace now. He'll have to fire the first shot, or it will be murder, I suppose, even though it's to save a man's life."

"You're right, Ben; it won't do to murder even an Indian; and I hope you won't shoot him if you see him. Just tell him the way as straight as you can, and let him come here. If I can only see him, I think we can get along without any murdering being done by anybody. I hope you'll see him, Ben, and send him here."

"Well, Royal, you've seen too many Indians to be killed by one now, I guess; and if he comes to me I'll send him along. But I hope, for the sake of them that's in the house, you'll keep a sharp lookout. I wouldn't work too near the woods, if I were you."

And so saying, Robinson left the bold man at work where he had found him, and returned home. Warner did not leave his work till the usual hour; but he turned many a searching glance towards the woods, which were not far from him, and listened also for any sound that might come from them, as his hoe stopped, and he bent down to pluck the weeds from among the tender blades of corn.

But he finished his day's work without discovering anything of the wily foe he expected, and went home to his supper, meeting his wife and little ones as composedly as if nothing had happened to disturb the usual serenity of his mind. He said nothing to them of Robinson's call; and the only thing he did that would indicate that he had it still in mind, was to take down his rifle, and draw out the charge that was in it, which he replaced, with unusual care, by another, scraping the edge of the flint, to make it more certain that it would strike fire the first time. Then he hung the rifle on

the pegs where it always rested when not in use, and seemed to have no thought for anything but an hour of quiet enjoyment with his little family, and a good night's rest.

The next morning, before going out, Warner scanned the edge of the woods carefully through the windows of his cabin, which drew from his observing wife the inquiry, —

"What is it, Royal? Are the bears around again?"

"There are varmints of some kind, judging from what I saw yesterday; and I want to get a sight at them."

But without any further explanation, he went out, and began to do his chores, his wife preparing breakfast meantime. After breakfast, he shouldered his hoe, and went towards the field, as if to continue his labor there; but just as he reached it, he stopped, and stood for a few moments in a thoughtful attitude, and then turned back towards the house, as if he had decided not to work. Hanging his hoe in the usual place, he entered the house, and took down his rifle, and looked at the priming, and rubbed the flint once more.

"Is it a bear, or a turkey?" asked his good wife.

"What if I shouldn't tell you?" answered Warner, as he turned a tender look towards her.

"Then I'd kiss you," she exclaimed, laughingly, stepping lightly towards him, and putting her arms around his neck and her lips to his face.

"Then I am sure I will never tell;" and he put one arm around her waist, and returned the kiss as fervently as it was given. "Don't be alarmed, Mary; I'll be back soon;" and, without any more words, he left the cabin, going in a direction opposite to his field of corn, which left Mary a little mystified as to what his true purpose was.

Warner went straight forward, without turning a look in any direction, till he had entered the woods, when he looked about warily, but still kept on. At last he stopped, and seemed to be searching for a spot favorable for some purpose he had in mind. A large decaying log was lying on the ground not far from him, and he went towards it. He seemed to be satisfied with it; and putting down his rifle, he took out his knife, and cut off three or four of the smallest saplings that grew near. Then taking off his tow frock, he hung it upon a stick, which he drove into the ground close to one side of the log, and placed another short stick within the shoulders of the sleeves, to keep them out about the breadth of his own

shoulders, arranging it so that the neck of the frock was a few inches above the top of the log. Over this he placed his hat, so as to make it appear to any one approaching as if a man was sitting with his back against the log, his head and shoulders rising just above it.

Warner seemed satisfied with his work, and after viewing it a moment, he proceeded to cut down some bushes, working with some haste, and with them he erected a screen, such as hunters used to lie in wait behind when calling wild turkeys. He formed the screen directly in front of the frock and cap, so that whoever approached it would naturally suppose that a hunter was waiting there, decoying game.

His arrangements were soon completed; and then, after looking sharply around among the trunks of the tall trees, he laid himself down beside the log, so that his own body was effectually concealed, and began to utter, at regular intervals, the call used by hunters to entice turkeys within rifle-shot.

Between the calls, Warner listened, to detect any sound that might be made within the silent forest, but never moving, or raising his head to look around. At last he heard an answer to his decoying notes, coming faintly from the quarter opposite to that from which he had approached the log; and immediately he repeated his call. An answer came back to every call he made; and as each successive reply seemed nearer than the last, he was sure that some solitary bird was being enticed towards him. Now his calls were less frequent, and between them he listened anxiously for any other sounds. He put up a stick which he held in his hand, and moved the hat and frock slightly several times, straining his sense of hearing always to the utmost.

Suddenly there was a sound like the snapping of a dry stick broken by being trod upon. It was but a slight sound, but he could not be mistaken, and Warner's face showed a look of satisfaction, probably because the sound came from beyond the opposite side of the log. He quickly jogged the hat and frock again, repeating his call, and making a rustling noise with his limbs at the same time. Then for a moment he kept perfectly still, and was almost certain he could detect the soft, stealthy tread of moccasined feet upon the leaves.

He moved the hat again, raising it slightly, and in an instant a bullet whistled through it, and the silence was broken by the sharp report of a rifle. Bending the stick that held the frock and hat quickly forward, till they

were below the top of the log, he waited still a moment more, and then heard the quick tread of some one approaching. Springing to his feet, he confronted his mortal foe, the Indian who had been so long in pursuit of his life.

In an instant his rifle was at his shoulder, and the Indian, already within twenty yards of him, stopped, statue-like, uttering the single exclamation, —

"Me dead man!"

He might have seen the flash that leaped from the dark tube before him, but he could hardly have heard the report which followed it. He seemed to rise, without any effort of his own, clear of the ground, and then he fell forward at full length upon it.

Warner coolly wiped out the barrel of his rifle, re-charged it, and then approached his prostrate foe. He lay upon his face; but turning him over, he saw that he was indeed a dead man. The Indian had sought so diligently and so long only to be foiled by the object of his search in this manner. The white man's cunning had more than equalled the red man's; and the result of the Indian's long journey was, that his own spirit had been sent by his intended victim to join that of the dead brother in the happy hunting-grounds.

"He brought it upon himself; he fired the first shot, and it is no murder," Warner said to himself, as he stood thoughtfully over the body. "But now he must be disposed of."

The pond I have mentioned was not far off; and taking the body by the shoulders, Warner drew it thither. Then he managed to bind some heavy stones to it, and to place it in his canoe. Paddling to the centre of the pond, and dropping it overboard, it sank beneath the placid waters, to trouble him no more.

"Now," thought he, as he returned to the shore, "I hope the war is over."

Going back to his decoy, he destroyed every sign of it, and picking up the Indian's rifle, he carried it to the edge of the pond, and cast it from him far into the water. Then he turned towards home, and soon appeared before his waiting wife, seemingly as calm and undisturbed as if he had only returned from a morning's hunt.

"Ah!" she exclaimed, good-naturedly, as he came in empty-handed, "some one else has carried away the game, then. I heard two shots, and knew that you could not have fired them both, because they were so near together. Whom did you meet, Royal?"

"I don't know his name; he don't belong in this settlement," said Warner, evasively.

"Why didn't he come home with you? If he is a stranger, we might have given him a dinner, at least."

"He had a long journey before him, and could not tarry. He is far from here by this time."

"He did not carry away the game, then. Why have you left it behind? I thought you had gone for a turkey."

"I might have brought one, if it had not been for him; but he fired first, and only frightened the bird, so that it escaped altogether. I'll bring you a turkey to-morrow, Mary."

And thus was the good wife's curiosity satisfied; and towards all of his neighbors Warner was equally reticent for many years; but finally, as he and my grandfather grew old together, he one day told how he had baffled his enemy, as they two sat together upon the shore of the pond where he had buried him, talking, as they sometimes loved to do, of the daring exploits and wild adventures of their younger days.



THE BATTLE OF BUNKER HILL.

BY T. W. HIGGINSON.

[AN EXTRACT FROM THE YOUNG FOLKS' HISTORY OF THE UNITED STATES.]

SAMUEL ADAMS, when he heard the guns at Lexington, exclaimed, "O, what a glorious morning is this!" for he knew that the contest would end in the freedom of the colonies. President Jefferson said afterwards, —

"Before the 19th of April, 1775, I never had heard a whisper of a disposition to separate from Great Britain."

The Massachusetts committee of safety at once sent out addresses to the different towns, and to the other New England colonies, asking them to send troops to the neighborhood of Boston. Before long there were some fifteen thousand men collected, under a variety of independent commanders. General Ward commanded those from Massachusetts; General Stark, those from New Hampshire; General Greene, those from Rhode Island; and Generals Spencer and Putnam, those from Connecticut. The army was not at all disciplined; it had few cannon, and little ammunition; the men came and went very much as they wished. But they were strong enough to keep the British army of five thousand shut up in Boston; and General Gage sent most of the families of the patriotic party out of town, so that there was very little intercourse between those within and those without.

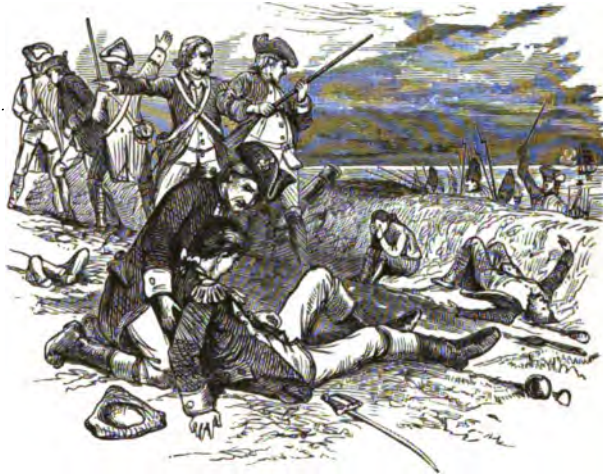
It was found that there were two ranges of hills that commanded Boston on two sides — Dorchester Heights on the south, and Bunker Hill and Breed's Hill on the north-west. It was of importance to both sides to get the control of these hills; and the Americans had reason to know that General Gage was planning to extend his lines, and include Bunker Hill. So a force of a thousand men was sent, one night, under command of Colonel Prescott, to erect some earthworks for its protection. His men were mostly farmers: they had no uniforms, and carried fowling-pieces without bayonets. They formed on Cambridge Common, and, after a prayer by the president of Harvard College, marched, at nine P. M., June

16, 1775. They marched so silently that they were not heard; and the bells of Boston had struck twelve before they turned a sod. It was finally decided to fortify Breed's Hill, as being nearer to Boston, instead of Bunker Hill. The work was soon begun. As they worked, they could hear the sentinels from the British men-of-war cry, "All's well!" As day dawned, the newly-made earthworks were seen from the ships, which began to fire on them, as did a battery in Boston. But the Americans went on completing their fortifications. General Gage with his telescope watched Colonel Prescott as he moved about the works.

"Will he fight?" asked he.

"To the last drop of his blood," said an American loyalist who stood near.

Soon the British general made up his mind



to lose no time, but to attack the works that day.

It was now the 17th of June. The day was intensely hot. Three thousand British soldiers were embarked in boats, and sent across to Charlestown. Prescott placed his men, as he best could, behind the half-finished mounds; and a detachment was stationed at a rail fence, on the edge of Bunker Hill, to keep the British troops from flanking the redoubt. This rail-fence was afterwards filled in with new-mown hay, to screen better those behind it. Without food, without water, and with very little ammunition, the Americans awaited their opponents. There were from two to three thousand behind the breastworks, and four thousand British to attack them; and the Americans were almost without drill or discipline, while the British troops were veteran regiments. On the other hand, the British were obliged

to advance in open field, while the Americans were behind their earthworks—a far safer position. There they waited as quietly as they could, while Putnam, Prescott, and others moved about among them, saying, "Aim low." "Wait till you can see the whites of their eyes."

The British soldiers marched forward slowly, for they were oppressed with the heat, and were burdened with their knapsacks of provisions. But they marched with great regularity, and entire confidence. They fired as they went; but only a few scattering shots were fired in return. On, on they came, till they were within some ten rods of the redoubt. Then the word "Fire!" was given; and when the smoke cleared away, the ground was strewn with the British soldiers, and the survivors had already begun to retreat. A great cheer went up from the forts, and the shout was echoed from the rail fence. The Americans behind the fence were next attacked by the right wing of the British. The Americans withheld their fire till the last moment; and three fourths of the advancing soldiers fell, and the rest faltered. Twice the British advanced, and twice they were driven backwards, while very few of the Americans were hurt. Then a third attack was made upon the main fort. The British officers were seen threatening the soldiers, and even striking and pricking them, to make them advance; but they were very unwilling. Putnam passed round the ranks, telling his men that, if the British were once more driven back, they could not rally again; and his men shouted, "We are ready for the red-coats again."

But Putnam knew that their powder was almost gone, and told them to reserve their fire till the British were within twenty yards. Once more they awaited the assailants, who now advanced with fixed bayonets, without firing, and under the protection of batteries of artillery. Most of the Americans had but one round of ammunition left, and few had more than three. Scarcely any had bayonets. Their last shots were soon fired; and there was nothing for them but to retreat as they best could. They fell back slowly, one by one, losing far more men in the retreat than in the battle. Among their losses was the brave General Warren, eminent as a physician and as a patriot. He was president of the Provincial Congress, and was there only as a volunteer, not in command. The British general, Howe, on hearing of his death, said that it was equal to the loss of five hundred men to the Americans.

The battle of Bunker Hill was of the great-

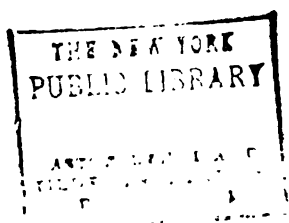
est importance to the colonies. First, it settled the question that there was to be a war, which many people had not before believed. Secondly, it showed that inexperienced American soldiers could resist regular troops. It is said that when Washington heard of it, he only asked, "Did the militia stand fire?" And when he was told that they did, and that they reserved their own till their opponents were within eight rods, he said, "The liberties of the country are safe."

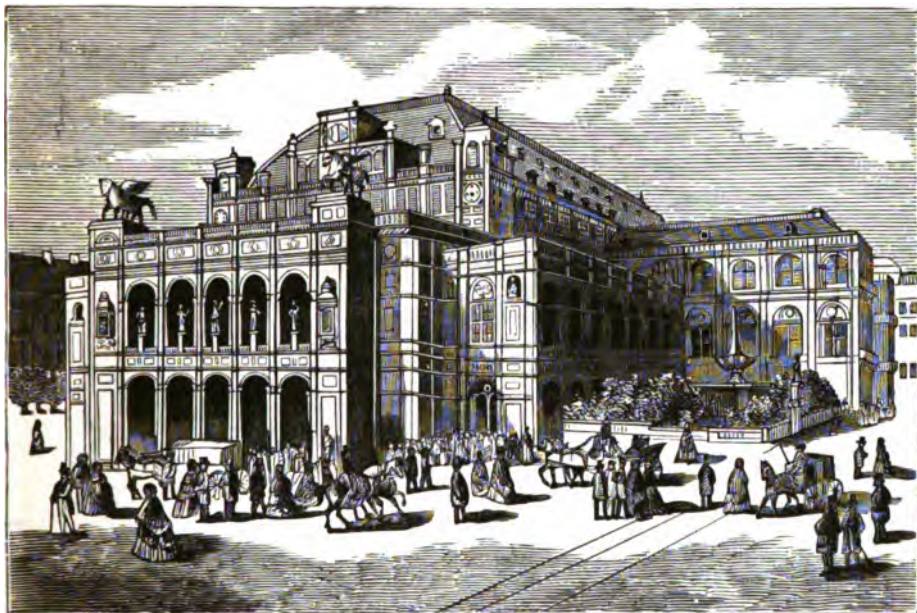
The battle was not claimed as a victory by the Americans; and yet it roused their enthusiasm very much. The ranks of the Continental army were filled up, and the troops were in high spirits. On the other hand, the greatest surprise was felt in England at the courage shown by the Americans in this contest, and the great number of killed and wounded among the British troops. By the official accounts, the British loss in killed and wounded was more than a thousand (1054), including an unusually large proportion of officers, being one in four of the whole force engaged. The American loss was less than half as many—not more than four hundred and fifty. People in England complained that none of their regiments had ever returned so diminished in numbers from any battle. One came back, for instance, with only twenty-five men. And it was said that "no history could produce a parallel" to the courage shown by the British in advancing beneath such a murderous fire. "So large a proportion of a detachment," it was said, "was never killed or wounded in Germany," where the British armies had lately been engaged.





THE BATTLE OF BUNKER HILL.





THE GRAND OPERA HOUSE.

VIENNA.

BY MARY GRANGER CHASE.

THE Austrian capital has been pronounced the least part of itself; for almost any one could walk round the city proper within an hour, and through it in a quarter of an hour. Yet this little spot contains nearly sixty thousand inhabitants. It is surrounded by a broad, open green ring, which was the glacis when the town was fortified, and is now laid out with lovely walks and fine acacia and chestnut trees. Beyond this pleasant, grassy promenade are the suburbs, four and thirty in number, and comprising ten times as much space as the inner town, though only seven times as many people.

From the relation of city and suburbs, Vienna has been compared to "a diamond sur-

rounded by thirty-four emeralds," and also to "an ancient dame with her more or less well-grown daughters."

The old town is the fashionable quarter. Here are the palaces of the emperor and the principal nobility, the most interesting churches and public buildings, and splendid shops, with very elaborate and tasteful signs. In the suburbs the streets are broad, well paved, and handsome; but those in the town, though cleanly, are crooked, very narrow, and all run to one centre, like the spokes of a wheel, or the threads of a spider's web; and as the houses are very high, the city is dark, excepting just at midday, when the sun does manage to look in. There are no sidewalks, and

pedestrians are compelled to keep constant watch over their toes, and sometimes to jump on to the steps of a carriage, to save themselves from being crushed by it. Corner houses have large slanting stones with iron caps, and rings as thick as a man's finger, for vehicles to strike against. It is a custom in Vienna to build houses around court-yards, and let them, in stories or flats, to different families. The average is about forty occupants to a house; but some houses are little towns by themselves, and produce immense sums of rent. There is one which has ten courts, two hundred and twelve dwellings, and twelve hundred inhabitants. Another has six courts, over thirty staircases, three hundred dwellings, and two thousand inhabitants.

As one approaches Vienna, before the city itself can be seen at all, the south tower of St. Stephen's Cathedral is discerned. This church stands in the very heart of the old quarter, and is one of the most lovely specimens of Gothic architecture to be found in the world. It dates back to the middle ages, and not only is its exterior exquisitely harmonious, graceful, and rich in tracery, curious carving, and monuments, and the doorways very beautiful; but the height of the ceiling, the soft, dim, religious light, the deep, uniform tint of coloring, the highly decorated pillars, elaborately wrought pulpit, brilliant old painted glass, and impressive pictures, give to the whole interior "the air of a holy museum." The south spire is a most delicate masterpiece of perforated stone, not actually attached to the church, but shooting up beside it from the ground, regularly and gradually diminishing in arches and buttresses, until it reaches the height of over four hundred feet. The Viennese often speak of this graceful pyramid as "Stephen," as though it were a living friend. Mosses grew in profusion in this old tower; and hawks, jackdaws, crows, and spiders have their homesteads here, while of bats, fifty were killed, when some years ago the watchmen in self-defence, hunted them to their holes. The roof of the cathedral is covered with colored tiles, which form a double-headed eagle — the crest of Austria. This is supposed to be the largest figure of a bird in the world. It is one hundred and eighty feet wide, from the end of one wing to that of the other. Each eye is formed of four gilded tiles, and each beak contains thirty. The view from the summit of the tower is exceedingly grand, taking in not only the busy city and its bright suburbs, and the Danube, but also Napoleon Bonaparte's battle-fields, the Island of Lobau, and the villages of Wagram,

Aspern, and Essling. A tourist in Vienna, some years ago, said of a lookout from the top of one of the side towers of the cathedral, —

"This summit is formed like the leaves of a rose, flattened at the top, and affording just space enough for two human feet. We ascended accordingly, and perched like squirrels on the topmost branch of a tree. The beautiful city of Vienna lay at our feet. It was a most lovely, calm, clear day. We heard and saw all that was passing in the city; even the songs of the canary birds in the windows of some houses ascended to us, and we could see the butterflies fluttering over the house-tops in search of some green spot in this (for them) dreary waste. We could have told a gentle-

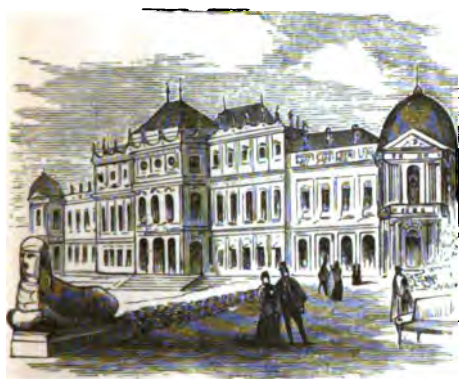


St. Stephen's Cathedral.

man we saw walking below, where the brother was, of whom he was in search; for we saw him at the same time driving at his leisure on the glacis. This glacis, which surrounds the inmost core of the city with its broad, green ring, lends the panorama its principal ornament; it causes the whole scene to fall into picturesque parts, and permits the fine rows of houses in the suburbs to be seen to full advantage. They lie round the outer edge of the glacis like white flowers in a wreath of green leaves. The tower-keeper named to us all the market-places, streets, houses, and palaces we saw beneath, showed us the Danube, the first range of the Carpathian Mountains,

the Styrian Alps, and the roads that lead to Germany, Moravia, Bohemia, Italy, and Hungary."

Near the cathedral is a square called the *Stock-im-Eisen Platz* (the Iron Tree Place), — a whimsical name with a whimsical origin. When the church was built, it was outside the walls of the city, and the forest reached to the spot. In time the woods vanished before the steadily growing town, until only the trunk of one tree was left; and this was spared, because dedicated to the welfare of working-men. Each artisan who entered the city drove a nail into the tree, as a token of his arrival, and his possession of a strong right arm. Finally, the *stock*, with its millions of nails, and iron hoops to preserve it, has become a post of iron, yet, all the time retaining the outline of a tree, and has given its name to the square.



The Belvedere Palace.

The Church of the Convent of the Capuchins is interesting, because it contains the tombs of the imperial family. The bodies of all who have Hapsburg blood in their veins are deposited here, while their bowels are placed in St. Stephen's Cathedral, and their hearts are preserved in silver urns in the subterranean Loretto Chapel of the Church of the Augustines. Strangers are permitted to visit the burial-place of the Capuchins under the guidance of one of the old monks, with his russet habit and cowl, white cord round his waist, and a lantern, or an antique Roman lamp, in his hand. There are over seventy large, oblong, and generally bronze coffins, ranged against the wall. Among the most elegant is that of the Emperor Joseph I., which is of massive silver, and that of Maria Theresa, who is called the Queen Elizabeth of Austria. A plain coffin, in a corner, holds the dust of a certain countess, who was Maria Theresa's governess. The great queen, as a

mark of esteem and gratitude, made a place for the remains of her friend and teacher in the tomb of the imperial family. For thirteen years Maria Theresa herself descended into this sombre vault, every Friday, to pray and weep beside the remains of her husband. One of the coffins most recently deposited here contains the body of the unfortunate Maximilian, who attempted, during our civil war, to secure for himself the throne of Mexico. Near the casket of Francis I. is an unadorned copper coffin, with a raised cross upon it, and the words "*Napoleonis Galliarum Imperatoris Filius*," &c. Here lies the mortal part of Napoleon Bonaparte's only son, the titular King of Rome, who died at Vienna, in 1832, at the age of twenty-one years. He is said to have been an amiable prince, and he was the favorite of his grandfather, Francis I., who survived him but three years. They were constantly together in life, and the emperor desired that in the sepulchre their bodies should not be separated.

The Emperor Francis was almost idolized by the people, so paternal was his home rule. Every Wednesday he devoted certain hours to the reception of any of his subjects who had petitions or complaints to lay before him, and people who felt unjustly treated travelled hundreds of miles to tell their story to the emperor himself. On one occasion, Francis met, in one of the streets of Vienna, the body of a poor woman which was being borne to the grave unattended. He asked why the friends of the deceased did not accompany her to her burial. The reply was, "She has no friends." "Then we will be her friends," said the emperor; and, taking off his hat, he followed the remains to the grave. About two years after the death of Francis I., Mrs. Trollope, the mother of the well-known novelist, was in Vienna on the day called by the Germans, Poor Souls' Day, which is spent in visiting the graves of departed friends, and offering masses for their souls. On this occasion, the crypt of the Capuchin Church was open to the people, and Mrs. Trollope says the old and the young, the rich and the poor, thronged to the casket of Francis I., and wept and sobbed as though overwhelmed with grief. In the evening of the same day Mrs. Trollope was at a party, and spoke of her surprise at the great emotion she had witnessed in the morning.

"Had you known the emperor," said all who heard her, "it would have caused you no astonishment."

"Would it surprise you," asked a lady pres-

ent, "to see children weeping at the grave of a father? The emperor was more than a father to us."

The present Emperor of Austria, Francis Joseph, goes once a year, shuddering and shrinking, into the solemn gloom of the Loretto Chapel, to pray amidst the silver urns which enshrine the hearts of the deceased members of his family. The church to which this chapel belongs is the parish church of the court, and contains the masterpiece of the famous Italian artist Canova. It is the monument of the Archduchess Christine. He spent seven years upon it, and after his death the sculptor, who was asked to devise a fitting monument for him, felt that he could execute nothing that would be so worthy of his brother-artist's greatness as a copy of this tomb; and that is what marks Canova's own burial-place in Venice.

The *Votiv Kirche* (Votive Church), which is in the suburbs, is a new, elaborate, and very costly Gothic structure, built by public subscription, in memory of the hair-breadth escape of the present emperor from an attempt to assassinate him in 1853, when he was but three and twenty years of age. The foundation-stone was brought from the Mount of Olives, and it was laid by Francis Joseph himself in 1856.

An older church of interest is that called St. Karl, which was built between 1713 and 1737 by the benevolent Emperor Charles VI., in fulfilment of a vow that he made when in the former year, the plague was devastating his capital. Two lofty columns, at each side of the building, show, in winding bass-reliefs, events in the life of Count Carlo Borromeo, a celebrated saint in the Roman Catholic church; but they make the edifice look somewhat like a Turkish mosque with its minarets.

The Imperial Arsenal in Vienna is open to visitors every day, by tickets obtained at the office of the minister of war. Here may be seen, festooned around the walls of the courtyard, the enormous chain of eight thousand links, which the Turks, when they besieged the city, under Sultan Solymán, in 1529, threw across the Danube to impede the navigation of the river. Again, in 1683, the Turks, commanded by the Grand Vizier Kara Mustapha, laid siege to Vienna; and then the city was saved by the gallant Pole, Sobieski, and the Duke of Lorraine. Sobieski's armor is preserved in this museum, and also the green standard of Mahomet, captured in the battle he gained. A great variety of cannon is stored in this arsenal, and one small field-piece is

known as "*die Amsel*" (the blackbird). Two hundred thousand stand of arms are at present kept in readiness here, and fortified barracks for ten thousand men. In another arsenal in the town is shown the immense blood-red standard the Duke of Lorraine took from the Turks, and the head of the Vizier Kara Mustapha, the cord with which he was strangled when he returned in defeat from his expedition, and the shirt covered with Arabic inscriptions from the Koran.

The Ambras Museum occupies seven rooms, and contains numerous wonders. Here are the horse-tail standard and quiver of old Kara Mustapha, the tomahawk of Montezuma, Emperor of Mexico, and a nail, two feet long, and weighing forty-two pounds, from the famous Pantheon at Rome. And here is a set of toys made for the children of Francis



The Church of St. Charles Borromeo.

I. of France and Eleanor of Austria. Think of looking at the very playthings wrought for the children of the French king, who met Henry VIII. of England on the celebrated *field of the cloth of gold*! The cabinet of minerals in this museum has a very large collection of aerolites, or stones that have fallen from the sky. One of these visitors from afar weighs seventy-one pounds. It fell to the ground in Croatia in 1751.

The ancient and splendid Belvedere Palace, now a museum, is in the suburbs, about two miles from St. Stephen's Cathedral, but is easily reached by an omnibus. It consists of two buildings, one at the summit, the other at the foot of the hill. The Upper Belvedere is a picture gallery, stored with invaluable works by the old masters. It contains a mosaic copy of Da Vinci's picture of the Last

Supper, which Napoleon Bonaparte engaged for a certain sum, and it was taken by the Emperor Francis I. at the same price. In the library of this building is preserved, in a glass case, Maximilian's elegant uniform, dabbled with his blood, and a red sash embroidered and heavily fringed with gold. The embroidery was the work of his poor Carlotta's own fair hands; and her last act, before the painful parting with her husband in Mexico, was to tie it over his uniform. The ill-fated young prince wore that uniform concealed under his mantle when led forth to meet the fatal bullet. The Lower Belvedere contains ancient armor, portraits of the Hapsburg family, and dresses and jewels brought from the South Sea by Captain Cook.



Equestrian Statue of Prince Charles Schwarzenberg.

In the imperial palace in the old quarter of the city, the state apartments remain as Maria Theresa left them, excepting as time has marred the ancient gilding and faded the heavy velvet hangings. The library of this palace is a splendid one, containing three hundred and fifty thousand volumes, nearly as many engravings, and sixteen thousand manuscripts, some of which were written nearly two hundred years before the New Testament was. It requires a descent to go from this library to the imperial stable, but the Austrians delight in noble horses, and the emperor's stalls are quite worth visiting. In

the "dark stable" ninety superb sleek black horses live in the height of equine luxury. Before each stall lies a white mat, on which the hostler must wipe his feet before stepping upon the carpet of nice white straw within. The "white stable" is the empress's, and there are also the bay and the gray, all similar in appointments. It would seem as though horses might be long-lived here; and in the Vienna Museum of Natural History is preserved a horse that died in the emperor's stable forty years of age. Another, in the same place, is covered with woolly hair, like a poodle dog. This museum has an immense goose, and a pigeon, each with four legs.

About two miles out from Vienna is Schönbrunn (Pretty Fountain), the usual summer residence of the imperial family. This large and magnificently furnished palace, which takes its name from a beautiful fountain, decorated with the statue of a nymph that stands in its grounds, was built by Maria Theresa, and was her favorite residence. Napoleon Bonaparte made his headquarters here both times that his troops held Vienna, in 1805 and in 1809; and here his son lived and died in the same room and on the same bed his illustrious father had occupied. The visitor now walks through certain rooms, frescoed in Mexican designs, that were Maximilian's apartments. One little chamber, with tapestry work and paintings, set in the walls and protected by glass cases, is the room in which Maria Theresa and her daughters sat together engaged in needle-work. Among the portraits in this palace are seen those of this stirring queen and her unhappy daughter Marie Antoinette. The extensive grounds belonging to Schönbrunn contain a menagerie, and very rich botanical gardens.

Vienna abounds in parks or squares. Among them, the one known as the Prater is emphatically "the Common" of the capital, and is four miles long. The fashionable drive in this immense park extends half a mile, and beyond it is the Prater of the common people, called the *Wurstel*, or Sausage Park, because, on all holidays, immense quantities of sausages (*Würste*) are always smoking here, and pleasure-seekers are continually regaling upon the savory compound. The Prater has wide, open spaces, charming thickets, and large herds of graceful, agile deer, which are so tame that they will eat from strangers' hands. The pretty creatures are called to one spot for their supper by the notes of the Jäger's horn. A small but very attractive park, is called the *Volks-garten*, or People's Garden. There is

here a fine colossal group of sculpture in Carrara marble — Theseus killing the Minotaur — made by Canova. It was executed by an order from Bonaparte, who purposed to have it decorate the arch of the Simplon at Milan; but upon his downfall it fell into the hands of the Emperor of Austria. One part of the *Volksgarten* is marked off by a wire fence as belonging to Strauss, "the king of dance-music." Every afternoon there is a concert in this park, and Strauss conducts two of them every week. The *Garten* is a gay scene in the evening, when numerous lamps are shining through the flowers and shrubbery, and the beautiful fountain in the centre is also brilliantly illuminated. Another square has a lovely fountain decorated with five bronze figures, representing Austria and her four principal rivers — the Danube, the Vistula, the Elbe, and the Po.

Equestrian statues are a noticeable feature of the public places in Vienna. The central court of the Imperial Palace, which is now called *Fransensplatz*, has a colossal bronze one of Francis I., supported by figures of Religion, Justice, Peace, and Fortitude. It was erected in 1846. The emperor is represented as blessing his people, and the expression of the face is happy; but the limbs and drapery are awkward. Separated from *Fransensplatz* by a railing with gilt spear heads is an esplanade that adjoins the *Volksgarten*. It is adorned with trees, flowers, and fountains, and furnished with seats, but it is not open to the public. Here are bronze equestrian statues of the Archduke Charles, the conqueror of Napoleon in "the tremendous battle of Aspern," and of the brave Prince Eugene of Savoy in the military costume of his time — the early part of the eighteenth century. The square called *Josephsplatz* contains a colossal equestrian statue, which Francis I. erected, in 1806, in memory of his uncle, the Emperor Joseph II., son of Maria Theresa. And a colossal statue of Maria Theresa has also been set up to commemorate her as the founder of the Military Academy. It is surrounded by figures of Religion, Justice, Wisdom, and Strength. Francis Joseph intends, it is said, to have magnificent statues of all the emperors of Austria erected in Vienna.

The educational and literary advantages of Vienna are remarkable, and also its charitable institutions. Orphans, the children of soldiers and of very poor parents, are taught gratuitously, schoolmasters being required to take twenty-five poor children as free pupils

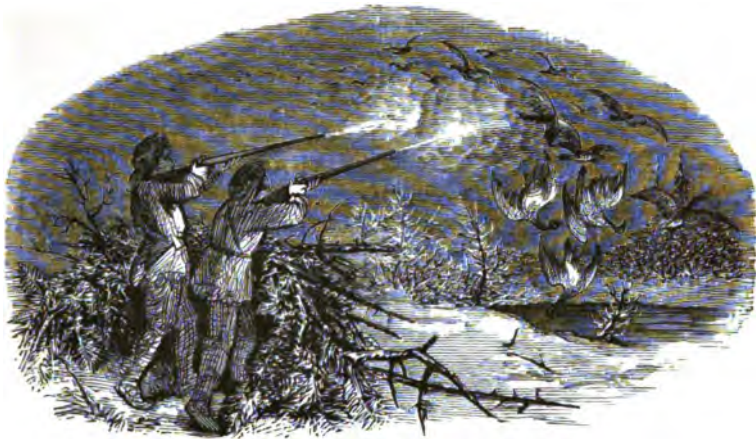
among every one hundred scholars they have, while the state provides these needy little folks with books. Rarely is any one found here who has not been taught to read, and instructed in the first principles of religion. The Vienna University is over six hundred years old, though its present building is one of Maria Theresa's works. It has three hundred students, of whom the larger number are free pupils, the salaries of the one hundred and twelve professors coming wholly from the state. This institution is very celebrated as a school of medicine. The deaf and dumb in Vienna are very tenderly cared for, and carefully instructed; and it is from this class, who are little tempted to gossip, that persons are selected for such business of the state as requires secrecy.

One of the latest handsome buildings added to the structures of Vienna is a large Opera House, which has a very imposing façade, and is decorated with arches, porticoes, arcades, and numerous pilasters. It is in the style of art termed the *Renaissance*, which was revived by Raphael, and is less stiff than the ancient, but a modification of it.

On Sundays Vienna looks like "a city depopulated by the plague;" for after mass the people rush out of town on excursions to the Prater, the suburbs, or still farther into the country. But a gentleman who, some years since, was staying here for a while, walked out on a Sunday afternoon, and says, —

"In the court-yard of one house, into which I looked, I saw a little boy reading aloud from a book. He told me that he was eight years old, and that he did this every Sunday. I took his book, and saw that he was reading the Gospel of St. Luke. He said it was the gospel for the day, and that many boys, in a similar manner, read the gospels on a Sunday before the houses of Vienna. When he had finished, there descended on him, from the upper stories, a grateful shower of kreuzers wrapped in paper."





ADVENTURES OF A WILD GOOSE.

AN ORNITHOLOGICAL SKETCH BY A
HUNTER-NATURALIST.

THE BIRD ISLANDS OF THE ARCTIC SEA.

A STRANGER, I had visited the town of C., situated on one of the larger harbors of the Gulf of St. Lawrence, on a quest of some little difficulty, as it involved an unsettled claim for marine insurance; but I received a kindly welcome, and among the many pleasant acquaintances I there formed, none interested me more than Major Orlebar.

One of the younger sons of an old English family, he received a good education, and a commission in the army, and for some years, as a subaltern, led that life of genteel poverty which has been the lot of so many of the "younger sons" of English gentlemen. At last a few short months of active service, and a day or two of sharp fighting, left him an open road to the majority, which had seemed so unattainable, and he returned to England, to fall in love with the daughter of the rector of his parish.

With prompt decision he sold out his commission, married his loving though dowerless bride, and crossing the ocean, bought a half-cleared farm, and settled down as one of the "gentlemen farmers" of C.

It is much to be doubted if the disapproval of his course, freely uttered by his relatives, was at all warranted; his pay would never have been more than adequate to his own support in fitting style; while the money received for his major's commission — some twenty thousand dollars — gave him at once a comfortable home, a farm from which he could

draw a fair yearly income, and a comparatively higher social position among the poor and uneducated colonists than he could have secured at home.

At all events, I never saw a happier, more contented man than he was, when, ten years after, I met him, as an invited guest, amid the old-time pleasures and jocund festivities of an English Christmas.

I can almost see that happy circle now, as after a furious game of "blindman's buff," we seated ourselves around the huge wood fire, where Yule logs of huge size crackled and blazed merrily, giving at once grateful warmth, and that flaring, changeful light so favorable to the enjoyment of story-telling. There were the major, with his grave, pleasant face; his wife, with their eldest boy resting his curly head in her lap; little May, climbing deftly to her father's knee; two young English girls, who had sought a home with their sister after the old rector's death, and were now, apparently, pretty certain of soon overseeing homes of their own — if one could judge by the ardor with which two young farmers of the neighborhood anticipated their slightest wish, and improved each opportunity which "ye Merry Christmas" is famous for affording to lover and maiden.

"You promised us," said little May, "to tell us about the life of poor Senunk."

"Perhaps, dear," said her father, "our older friends would prefer to hear something more interesting than the simple story of the wanderings of a poor wingless goose."

With one accord, all present averred that nothing would suit them better; and I must confess that, for my own part, I have seldom heard a tale that interested me more than this little bird romance of a true hunter-naturalist,

and can only regret that my young friends could not have heard it from the same source.

"You will all of you remember our pen of wild geese in the poultry-yard we visited to-day, and as I called particular attention to him—that wingless bird, which ate out of May's hand. It is the only specimen I have now living of the Brent Goose (*Anser Bernicula*), a species of bird very plentiful on this coast, and in which I take a great interest, both as furnishing unexcelled food and sport, and as a species whose young are hatched and reared where no living man has ever trod.

"I have associated much with Senunk since the time I found him half frozen, with two broken wings, three years ago; and for days in spring and fall he has imparted to me much knowledge of his tribe, and their habits, as we have watched together, seeking to decoy and slay his wild congeners. This is what Senunk has told me, on the icy

reach of frost. It was only after heavy gales that we could procure this sea-wrack, and we looked upon it as a great luxury; for, as a general thing, we live only on vegetable food.

"It was but a few days before we took our first lessons in swimming; and soon I found myself paddling clumsily around in the shallows, and eagerly gathering with my little bill the *infusoria*, or tiny insects, with which those northern waters, at certain seasons, may almost be said to be alive. I soon satisfied my hunger, however, and striving up the, to me, steep ascent of the shelving rock, I reached the highest point, from which I could survey the strange scene before me.

"Around me, in the shallow water, on the naked rocks, in the blue sky above, all was life, for the millions of our race seek this desolate sea from the coasts and harbors of two continents. Every where the mother birds led their callow young over the shallows, or

brought on swift wing some dainty morsel, picked up far beyond the reach of our youthful vision. The rocks above were crowded with nests, for many young birds had fallen behind in their northward migration, and their eggs, as a consequence, would not be hatched for some days; while overhead, flocks of male birds were darting to and fro on long flights to far distant shores.

"As I sat dreamily opening and shutting my eyes, I

was suddenly disturbed by a sudden "whiss-sh of wings, a glimpse of a huge white bird, and a sudden shove which sent me headlong into the water twenty feet below. I plunged under, but coming to the surface, regained my balance and my breath, to find that I had been thus rudely sent overboard by my grandfather, who stood above, threatening with beak and wings a huge gull, who found himself balked of his intended supper, and was glad to retreat from the myriads of angry birds which immediately surrounded him.

"This was but the commencement of a life of continual exposure to never-ceasing persecutions and ever-attendant peril. Sometimes a huge falcon would descend into the midst of a young brood, and seizing a young goslin in his talons, would bear his victim away at a rate of speed which defied pursuit. Sometimes, as the water was covered with quietly-feeding birds, the stillness would be



floe, and amid the tangled reeds of the shallow harbors:—

"I was borne far to the northward in an ocean on which no sail ever glistened, and no oar or paddle ever measured, with sharp-smithing strokes, the swift course of boat or canoe. Our nest—for I had six brothers and sisters—was one of a myriad small, rocky islets, which rose far from any land in the midst of that mysterious sea; our islet was very small, being, in fact, nothing but a water-worn rock, three faces of which were steep and jagged, while the fourth sloped gently down into the sea. It contained but three nests, those of my parents and grand-parents.

"For the first few days I remember nothing, except that our parents brought us for food many sweet little shrimps, and other tiny mollusca, and at times, although more rarely, the tender marine plants which grow deep down in the sheltering waves, below the

suddenly broken by a loud splash, the fluttering of a new victim, and the roar of the wings, and discordant cries of the thousands of birds thus disturbed by the deadly rush of the Greenland shark.

"At last my mother almost gave way under her constant anxieties. 'Let us leave this place,' said she, 'or I shall lose all my children.' At her words my grandfather turned and said gravely, —

"'For us, from the day of our birth amid these desolate rocks, and these mysterious seas, until the hour when we fall before animal craft or human wile, there is no peace, no sure safety. Here our numbers repel the predaceous birds, for the most part, and the few who fall a prey to shark and seal are generally victims to their own want of caution. All happiness and safety are comparative, and in these islet fastnesses we find a peaceful refuge denied us elsewhere.'

"It was of no use, however, for my grandfather to talk, and besides, the food supply lessened as our numbers increased, and we were forced at last to seek another location, where there were not so many mouths to be fed. The families of my four grandparents numbered four old and twelve young birds, and our eight more, old and young, so that twenty of us were gathered together on the old home rock, the evening before we flew away to commence, for the younger birds at least, a new and untried life.

"It was late in August, and already the nights were chill, and the winds, when they blew east or west, came laden with sleet and hail, while around our islets the young sharp ice began to form, to be broken by the tough legs of our comrades, and ploughed through by huge chill icebergs, set loose by the autumnal gales from their glacial birthplace far away across the open sea. I shall never forget that evening, for the sun was low down near the horizon, and the soft south wind which had sprung up wafted the massy bergs gently from the shallows into the eddying currents of that warm tide, which flows from the tropics to the poles; and as the white spires and snowy pinnacles gyrated slowly, tinted with a flood of crimson glory and refracted light, the surgeless eddies

reflected, in ever-changing mockery, fantastic shadows of a scene whose beauty I can never forget.

"But my grandsire, who, from his age and experience, was looked upon as the leader of our party, commenced conveying to us his final instructions for the next day's journeyings.

"'We leave to-morrow,' said he, 'the only place of safety now left to our persecuted race. I see no alternative, for the supply of food will otherwise be inadequate to the wants of the younger broods. To-morrow we shall seek the shores of the main land, where new dangers will await us — the midnight attack of



the arctic owl, the stealthy assault of the fox, and the clumsy cunning of the polar bear.

"'Trust only to continual vigilance, and a close attention to the counsels of your elders, and remember never to stray by land or water far from the main body, for it is with numbers alone that we can meet the talons and sharp beaks of our bloodthirsty enemies, the owl and falcon.'

"I remember still that northern islet-studded sea, the father-land of our winged millions, as it looked when, in the early dawn, I gazed upon it for the last time. The huge isolated rocks, washed by the desolate sea; the ever-

shifting icebergs gliding along in the distance like huge ships, to dash against each other, or be overwhelmed between the mighty surges and the outer cliffs of the archipelago; the crowded masses of mother-birds with their young broods upon the rocky slopes; the countless thousands which fed and swam over the shallows, with the constant flight of large flocks to east, and west, and south, are still before my memory, and each returning spring brings back to each of our race a homesick longing which is almost irresistible.

"But I thought little of what the future might have in store for me, and as, with a cry of farewell and encouragement, the older birds sprang into the air, their young followed, at first in a confused, disorderly rush, which gradually resolved itself into a sharply-defined and wedge-like phalanx, of which the eldest formed the point, and the youngest and weakest the last on the diverging flank-lines.

"It was nearly night when far ahead we saw before us the snow-covered cliffs, which stood on either side of the entrance of the harbor we were seeking; but as the sun sank low down in the horizon, we rapidly neared our haven, sweeping down from our lofty flight between the sentinel cliffs, when from behind them rang a shrill scream, and in an instant a broad-winged falcon towered high above our trembling company.

"Alight, and face him with beak and wings," shouted my grandsire, promptly setting the example, which was followed by the rest, but too late; for as the leading birds splashed into the water, my youngest brother, the last of the flock, fell dead among us, with his white breast-feathers crimsoned with the drops that oozed from his wounded brain. We had no resource but to leave his body to the triumphant butcher, who, with shrill screams, circled above us until we took wing, and flew into the strange haven, weary and sad at heart.

"Behold, O my children," said our grandsire, 'a foretaste of the perils which await us. One victim has already fallen; and on every hand you may hear the shrill bark of the arctic fox; while over these shifting floes, alike indifferent to the crash of icebergs or the overwhelming seas, roams the huge but noiseless and terrible polar bear. A watch must be kept by night and day, for the perils which are past are as nothing to the mortal dangers which lie before.'

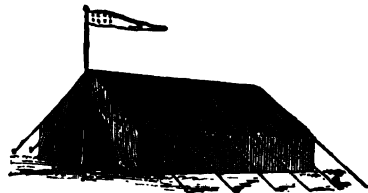
"Twice that night did our watchful elders warn us in season of the noiseless approach of the foxes, and as many times had we re-

moved to more isolated ice-fields, until at last we were several miles from the shore. The full moon silvered berg, floe, and motionless sea, gilding even the barren and misshapen cliff with that softened radiance which gives to all things some share of unreal beauty. Resting on a small floe we slept, but the old birds by turns watched as anxiously as ever. I awoke with a sense of peril for which there was no apparent cause, for nothing was in sight but a few small fragments of floating ice, of varied shape, one of which was, if anything, a little more rounded than the rest.

"One by one they came within our circle of attraction, and adhered to our floe. At last I missed the rounded fragment, but looking downward, saw with half-shut eyes a white mass shooting up from the depths of the sea. I heard the thrilling alarm-cry of our sentinel, as they broke into sudden foam, and a pair of armed jaws yawned below fiercely glaring eyes. A powerful blow swept among us, and the body of one of my companions, hurled along like a stone from a sling, struck just before me, and rebounding, flung me into the sea.

"I was unhurt, however, and taking to flight, joined the flock, as, unwilling to desert our murdered companions, we wheeled with wild cries around the glittering berg, on which, as on a throne, huge, powerful, stealthy, and merciless, sat triumphantly devouring our lost ones, the monarch of the undiscovered sea, the ranger of the untrodden floes, the terrible polar bear.

"As we sought, in fear and sorrow, an isolated rock, which rose high with steep and shelving sides above the sea, I listened to the voices of my grieving companions, now reduced in number to seventeen. Two of our leaders had fallen before that terrible paw: we were orphans."



ADVENTURES OF A WILD GOOSE.
AN ORNITHOLOGICAL SKETCH BY A
HUNTER-NATURALIST.

PART II.

THE FLORIDA COAST. THE SPRING MIGRATION.

"IT was late in the month of November when we arrived at our winter quarters, on the eastern coast of Florida. On leaving the Gulf of St. Lawrence, where the myriads of our migrating hosts had rendezvoused, we crossed the great Tantramar marsh, lying between Bay Verte and the head of the Bay of Fundy, and passed on, with little stay for food or rest, towards our southern destination.

"No heavy sea-fogs bewildered the sight of our leaders; no heavy gales arose to chill and benumb the weak and infirm, and the boatmen of Cohasset and Cape Cod, and the gunners of Long Island, and Barnegat, and the Chesapeake, bewailed their lost time and useless weapons, as they saw, day by day, the mild, warm rays of the autumn sun gleam from a cloudless sky upon an unruffled sea, while we swept swiftly southward, far away from the treacherous shore, and its thousand perils, resting now and then on the ever-throbbing ocean, to sleep through the hours of darkness, or snatch a hasty meal, amid a floating bed of sea-wrack.

"At last, diverging to the south-west, we saw the low, white outlines of Cape Carnaveral, and passing inside of Cape Florida, the northern island promontory of the Florida Keys, we saw before us the shallow waters, low, verdant shores, and still lagoons of our winter home. No signs of the presence of man was visible, save the battered timbers of some long-stranded wreck, or the distant sail of wrecker or fisherman.

"At low tide, leagues of limestone, covered with a whitish ooze, from which sprang clustering sponges and delicate corallines, lay between the breaking surf and sloping sand-beaches of the inner islands and the main shore, which were strewn with millions of shells, of all shapes, colors, and sizes. Within the tiny harbors, or rather lagoons, grew dense forests of white and black mangroves, which reared their tall trunks on arching roots, which raised them far above the oozy mud, into which their slender branches drooped, to be covered with clustering oysters, barnacles, and other shell-fish, around which, at high tide, gathered the delicious

sheep's-head, sea-trout, mullet, rock-fish, and a score of other species of beautiful and delicious sea-fish.

"The shores were covered with ever-verdant herbage, and perennial shrubs, and plants, among which were conspicuous the impenetrable thickets of Palmetto Royal, or Adam's Needle (*yucca gloriosa*). This curious plant was our great natural defence from the intrusion of man, or of beasts of prey on our favorite haunts. Properly an herbaceous plant, it at first presents but a cluster of long, narrow, sword-like leaves, of a perfect green, ending in a stiff, sharp point, with crenated edges. As it grows, however, it develops a ligneous stem, ten or twelve feet high, crowned with a chaplet of its annual foliage, and crested with a pyramid of bell-like blossoms, of a silver white, which, in their turn, give place to an edible purple fruit.

"These plants lined the edges of the wooded upland with *chevaux-de-frise*, scarce penetrable by a bird or rat, and beyond them were reared the pride of a Floridian forest, the blended beauties of the temperate and the torrid zones. There the cypress rose from the lower grounds, with the glossy-leaved tupelo, and the broad-armed sweet-bay, and near at hand the water-oak showered down its sweet-kerneled acorns, and the dwarf prickly palmetto spread its fan-shaped leaves. Farther up were lofty broom pines, graceful magnolias and kalmias, the green-leaved holly with its coral berries, and pines, and palms of many kinds, blending their varied foliage, in striking but beautiful contrast, softened, somewhat, by the weird, all-pervading drapery which the Spanish moss cast alike over massive trunk and slender limb. By the limpid rivulets stretched verdant prairies, on whose borders the orange, shaddock, and lime cast their ungathered fruit, and the wild turkeys strutted and fed beneath the nut-laden hazels and chincapins.

"On the broad marshes, lined with thick sedges and graceful, plume-tipped reeds, and among the mangrove flats and weed-choked shallows, we found an ample supply of food, among an innumerable multitude of other migrating birds. To enumerate even the names of the various species would weary your patience, and be beyond the scope of my recollection; but that scene is never to be forgotten. Vast flights of sea-fowl, that almost darkened the air, and covered the broad waters of the shallow lagoons, on whose borders stalked huge cranes, and herons, and bittern of many species, attended by hosts of ibis,

curlew, gallinules, and other wading birds of gorgeous and striking plumage, among whom, here and there, appeared the tall form and vivid crimson feathers of the flamingo.

"Myriads of sand-pipers and of plover gleaned the animalcula of the marsh ooze; hosts of ducks and tiny teal whirled up from the thick sedges, and the sea-gulls and small tern gathered from their summer haunts, by the frozen seas, to the wilderness shores of this winterless land, and many an ocean rover, the sharp-billed gannet, the tireless frigate-bird, the fierce cormorant, and the rapacious shag, came from their ocean-cruising, to rest a while among the inundated jungles of the Everglades.

"Yet life here was not without its dangers. Above us circled, in his lofty eyrie, the huge gray eagle, ever ready to strike a duck among the sheltering sedges, or bear the vainly-bleating fawn from the side of its dam; and weaker, but no less to be feared, swooped from his lower eyrie his bold congener, and the less feared fishing-eagle; while hawks of many kinds and varying powers of offence gathered around the winged host, whose weaker members afforded many victims to their watchful enemies.

"Still our life here was peaceful, on the whole, and our little flock of eight lost but one member during the entire winter. We were gathered one day in a shallow of the Shark's Head River, into which had fallen an ample supply of acorns from the oaks on the bank above. A bank of sedges shut us out from the river view, and the islet was small, and apparently untenanted. We were feeding, merrily conversing, as is our wont, when suddenly a dead silence fell on all our company. Turning quickly to learn the cause, I saw above me, among the many-colored foliage, a terrific sight. A tall savage, clad in skins worked with many-hued beads, with his face painted in vivid patterns, and surmounted by a crest of waving feathers, crouched amid the leaves, levelling a heavy rifle. Even as my grandsire shook his pinions in flight, a puff of smoke, and a jet of fire shot from the fatal ambush, and the partner of his many wanderings fell, pierced by the deadly bullet, and we saw, as we circled once above the fatal spot, the lifeless body seized by a gaunt hound, and borne into the treacherous ambush.

"At last the spring came; and early in March we set out on our northward journey. Many changes had taken place in our flock, which was still under the direction of my widowed grandsire, but which had increased

in number to twelve, owing to the mating of many of our number, — myself among the rest. The passion of love seemed to pervade all things at that season; the deer mated beside the rivulets, the turkeys called to each other in the forests, the thickets were vocal with the love-songs of the mocking-bird and the soft cooing of the ground-doves. Even the harsh gabble of the feathered tribes of ocean gave way to a soft, incessant murmur, inexpressibly mournful and weird to the voyaging mariner, but speaking to us of a wealth of life and of love. Slowly we passed on northward, meeting ever with cold, sleety gales from the north and east, and constantly exposed to a thousand perils from the deadly marksmen, who watched for us on every mile of the long, low coast-line.

"It was on the Chesapeake that misfortune first befell one of our number. My eldest surviving brother separated from us on the way northward, to attach himself to another flock, led by a young and inexperienced bird. Late in the night, both flocks alighted on some broad shallows, amid the thick sea-weed, beginning at dawn to feed amid the surrounding herbage. The quick eye of my grandsire soon perceived a skiff, disguised with reeds, approaching, and while the danger was still distant, advised us to take to flight.

"The leader of the other flock derided the idea. 'You have grown cowardly in your old age, old Gray-wing,' said he. 'I know to a yard the reach of their shot, and I shan't stir until he has paddled up to that point. By that time we shall have had breakfast, and shall fly off, leaving him to row back without a feather.'

"'I am afraid, it is true,' answered my relative; 'but I have been thirty years on the coast, and have heard of guns which can kill easily from the distance which you call safe. I shall work down the bay, and we must feed as we go. You had better follow.'

"'I have heard of and seen those "stanchion guns," as they call them; but that "float" is too small for anything but a light fowling-piece, or an old musket loaded with buck-shot; so trust to me, and we shall go northward, with a good laugh at yonder skulking gunner, and a better meal than our over-careful friends.'

"As we swam steadily away, feeding a little here and there, but keeping the original distance between us and the boat undiminished, I cast many anxious glances upon our thoughtless friends, who continued to feed, in perfect security, until the boat had almost reached the prescribed limit, full two hundred yards away.

I saw the young leader of the flock raise his head quickly, and give a warning cry, full of horrified dismay, as he gave the signal for flight. I saw their swift pinions beating the water into foam, in desperate flight, and then the slight disguise of withered grass was blown from the bows of the tiny boat by the heavy charge of shot belched forth by her tremendous swivel. Scarcely a bird escaped; and as we, too, took flight in fear and sorrow, we laid to heart the new lesson we had received of the many wiles and tremendous destructive power of our great enemy, man.

"I have faced the javelin of the Esquimaux, the arrow of the Indian, the far-reaching bullet and thick-flying shot of the white hunter, and have escaped a thousand wiles and snares; but I know the day will come when even my sagacity will fail, and I shall fall before the enemies of my race."

"Thus spoke my grandsire as I flew by his side, two nights later, beneath a brilliant moon, along the southern shore of Cape Cod. He spoke sadly, almost despairingly; but I dreamed not how soon his forebodings of disaster were to be verified. A few hours later, in the early dawn, we entered a wide haven, whose narrow channels flowed amid broad expanses of shallow water, densely covered with our favorite food.

"After feeding some hours, we saw at a little distance a sandy bar, on which the rising tide gradually encroached. On its highest point rose a square rock hung with weeds, and a number of birds of our own kind swam and fed in the adjacent shallows, and answered our calls, evidently wishing us to join them. The place seemed suitable to dry our feathers, and procure a little gravel and clean sand; and we were soon in their midst, feeding, chasing each other, and pluming our displaced feathers on the dry bar. As the tide came in, we retreated higher, until we were scarcely thirty yards from the rock. Then the fatal ambushade was disclosed, the decoy birds were pulled, screaming and flapping, from among us, by means of concealed cords; and, as heavy and repeated volleys thundered in my ears, I felt a sudden shock, sharp pains, and I became senseless.

"When I came to myself, I was in the hands of a man who, with two others, sat in the cunningly-constructed 'blind,' so fatal to my doomed companions.

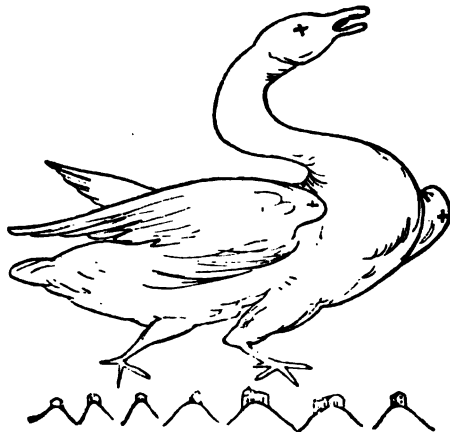
"'They are all dead except this one; and he has both wings broken,' said he. 'Shall we save him for a decoy?'

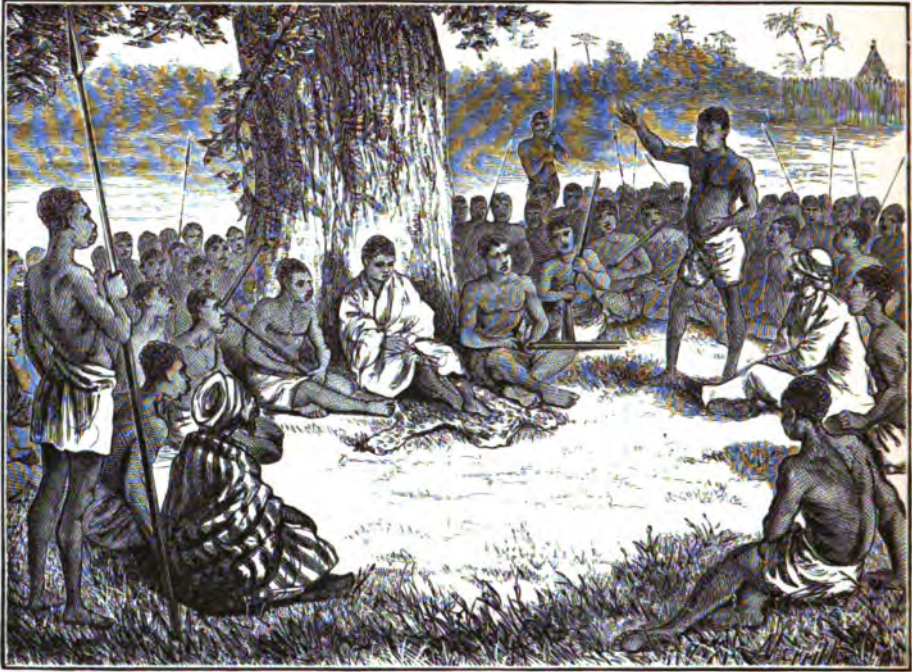
"All agreed to this; and the shattered tips

of my wings being amputated, I was trained, and finally sent as a gift to my present master. I have since lured many to destruction; for my longing for love and companionship, and the unforgotten glories of the Arctic Sea, come upon me with each returning spring, as I see my happier kindred sweeping northward through the free path of heaven, and I cannot resist the desire of meeting them once more, though I know I call them beneath the deadly shower of mitraille that has spared me thus far; although I know that, like my race, I, too, shall fall by the hand of man."

The narrator ceased as the clock struck midnight, and our happy party was over. A few years later, I met Major Orlebar in St. John, N. B., and asked him if he still possessed his wingless Brent goose. He answered, with a slight tinge of real sadness in his tone, —

"Poor Senunk was a sad loss to me, for I had watched him so much in our May days together, on the ice-floes, that he became very tame, confiding, and useful. I left him one day for a few moments, and on my return heard a gun fired near my boat. A dandy officer of the garrison, who was remarkable for his ridiculous sporting misadventures, had capped the climax of his stupidity by shooting my decoy-bird, thus ending the strange ADVENTURES OF A WILD GOOSE."





A SONNINKEE COURT OF JUSTICE. Page 255.

REMINISCENCES OF WEST AFRICAN LIFE.

BY EDWARD DUSSEAULT, JR.

A SONNINKEE COURT OF JUSTICE.

FROM the early part of 1864 to the latter part of 1873, I resided in Western Africa. I became familiar with the Mandingo language, and understood Jollof and Serra-Ouli well enough to suit my purpose as a trader. Most of my time was passed at a considerable distance from the seaboard, and some two hundred miles from the nearest white man. I was often obliged to conform to the habits and customs of the blacks; ate and drank with them, slept beneath the same roof, and joined them in their pastimes and excursions. I had to be careful not to shock their religious feelings, and, above all, never to mention the name of Mohammed save with profound respect; and I have often overheard a stalwart African express the wish that the Christian dog, whom their chief was entertaining, were not a guest, and, as such, entitled to their protection, and some consideration. All seemed to vie with each other, at certain times, in their endeavors to exasperate me by insults,

expecting to succeed in making me lose my temper and strike them; and it often took the utmost self-possession, on my part, not to retaliate upon them.

I resided principally in that section of the country watered by the Gambia and Sénégal, am well acquainted with the former from its mouth upwards, and am just as much at home floating on the surface of its limpid waters, as I should be if it had been my birthplace.

I do not purpose now to give a minute description of either of these streams, though I may hereafter be tempted to do so. But I merely wish to refer to a few of my own reminiscences, and to illustrate, by an incident in which I was one of the principal actors, the prodigious memory which is sometimes displayed by the better class of Africans. Here, let me say, at once, that I am by no means a follower of Dr. Hunt, formerly, if not now, president of the Anthropological Society of London, who gained an unenviable notoriety by publishing his address, before that society, on "*The Negro's Place in Nature*," wherein he declares him to be an anthropoid ape. For I believe the negroes, even the true negroes as defined by him, to be something more than apes, and that they are endowed with something more than mere instinct. True, they

but rarely exhibit any great amount of intelligence, but they have a sort of low, native cunning, which goes far towards making them difficult to trade with; and he who carries with him an exaggerated idea of their inferiority, is sure to get the worst of a bargain.

In the region of the Upper Gambia, various classes of blacks are met with. Mandingos, Jollofs, Accons, Serraulis, Foulahs, Fonta-Foulahs, Taurankas, Ouasoloonkas, Kroumen, and many others, all vie here, with low cunning, "grave deceit and paltry cheat," to gain our dollars. Their religions and customs are in many respects different, and in some cases entirely so. The Mohammedan religion, however, predominates, and its devotees are here called *Marabouts* — a name given to none but priests by the Arabs, but indiscriminately applied here to all Mohammedans. The pagans — those having no religion, unless the most superstitious Fetish practices can be called such — are here called *Sonninkees*. They are not only lovers of ardent spirits, but generally drunkards. Hence the word *Sonninkee* has got to mean a drinker of intoxicating liquors. The latter are the rightful owners of the soil, but the Mohammedans are fast gaining the supremacy over all others; and they will, no doubt, soon subjugate all who are now opposed to their rule up to the source of the river.

Having been the best supplied trader in the Upper Gambia, I became intimately acquainted with these blacks, and had ample opportunities to study their character and customs. My knowledge of the Mandingo language, which is almost universally understood in this region, assisted me very much to establish intimate relations with them; and, consequently, I have often witnessed, very often been the principal actor in, many an incident, which, if properly related, would prove interesting to the general reader; and it is with the hope of succeeding to do this that I have undertaken to relate some of my Reminiscences of West African Life.

In November, traders proceed up this river (the Gambia), land goods along its banks, and there remain with them, during the dry season, to barter them against produce, which consists chiefly of groundnuts (generally called *peanuts* in the United States), very few of which are shipped here, the greater part being shipped to France and England, where their oil is expressed, and called *olive oil*. Nearly all the salad oil used in this country is groundnut oil, there being but very little, if any, olive oil used for salad here, or even in France.

Now, it very often happens that a dispute arises between rival traders, which has to be settled by the king, or one or more of his chiefs; and it is well worth one's while to be present, during a civil suit, in a Sonninkee court of justice. I became involved in one of these suits in 1865. I was at my factory at Yabu-Tenda, in the kingdom of Ouli, at the head of navigation for small crafts. The trading season was drawing to a close, it being during the first half of May, which is the last month of the season. I had caused to be measured, on my account, a quantity of groundnuts (eleven thousand bushels), had paid for them, and nothing remained but to transport them to my stores. But, before I had commenced transporting them, they were claimed by another trader, who said that the holders had agreed to sell them to him, when he first came up, at the commencement of the season, and that, on the strength of this agreement, he had made them many valuable presents. He wished me to give up the nuts, upon his giving me the same amount as I had paid for them, in the same kind of goods that I had given. I, of course, refused; and he referred the matter to the king of Ouli (Juma I.), and the latter appointed a day (the 21st of May, 1865), when we were both to be at his capital, Medina, with all our witnesses. He said that he would then summon his court, and that he would preside and decide in person upon the merits of the case. This arrangement was formally agreed to both by the plaintiff and myself on the 12th, and we therefore had nine days before us, he to decide upon his mode of attack, and I upon my mode of defence. We both had ample time for this, as neither of us was busy, the whole crop having been bought by the traders, who were only waiting for vessels to ship both themselves and their produce.

The preliminaries of these trials are always expensive, as both plaintiff and defendant vie with each other in making presents to the king and his head men, expecting thus to gain the sympathy of the court. The plaintiff distributed his presents with a recklessly lavish hand, and I had some misgivings as to the result of our dispute. One circumstance, however, was in my favor. The plaintiff was a strict Mohammedan, whereas the king of Ouli is a Sonninkee. They were, therefore, enemies, and a small present from me would go as far towards influencing the king as a comparatively large one from my friend the plaintiff. I felt certain that, so long as the plaintiff did not overcome his scruples and give

the king rum, — as he had done on another and similar occasion, — I was all right, and had every reason to believe that I would receive impartial justice at his (the king's) hands. But knowing well, to my cost, the elasticity of a Mohammedan's conscience, I feared that rum would be used, and endeavors made to intoxicate the king, and to keep him drunk. In that case judgment would have to be pronounced, and justice meted out by the head man for war (Kalley Oualley), who was a notorious and unprincipled old drunkard, whom the plaintiff had succeeded in making his friend. Having, however, finally settled in my own mind what to do, and what presents to give, I decided to await events. I therefore sent them (the presents) to the king and his head men, who told my messenger to assure me that I need not fear the result of the trial, as every member of the court was on my side, and determined that I should retain the nuts in question. I had no doubt that the same message had been sent to the plaintiff, who, by the by, was called *Samba Easer*.

Medina, the capital, where the king held his court, is a good ten hours' ride, at a brisk walk, from the nearest point of the river's bank, which is Fatta-Tenda; and this latter place is five hours' ride from Yabu-Tenda, where I was stationed. I pass over this little journey (although it was an eventful one to me), as it has no connection with the subject of this paper; and I therefore reserve an account of it for another number. I must add, however, that I suffered some indignities at the hands of some Mohammedans, — amongst whom was Samba Easer, — during this journey to Medina, which enraged the king, put him altogether in my favor, and resulted in the imprisonment of these Mohammedans, together with Samba Easer. Daybreak, the 17th May, 1865, found me within three miles of the capital, winding my way through a thick growth of stunted trees, and we passed a human hand sticking out of the ground, and appearing as though a human arm had been planted there. It was the hand of a *Greet*, who had died the day before, and been thus buried with one hand sticking out of his grave. Greet's bodies, in most other places, are put into the hollow of a large baobab, and they are allowed no other kind of burial.

A little after five o'clock A. M., we emerged from the forest upon the finest and most fertile plain I ever was on in Africa. Every tree capable of sheltering an enemy had been cut down; and it formed almost a circle fully two miles in diameter. In its centre is the strongly-

stockaded town of Medina, the capital of Ouli. I pulled up my horse and stopped to admire the scene before us. They had had rain here the day before, and, consequently, the plain was covered with people, preparing the ground to receive the seed for the next crop of corn, while the chiefs were riding about, urging them to work faithfully; and I looked upon the nearest approach to civilized life which I had ever seen in the region of the Upper Gambia. We presently moved slowly towards the stockade, whilst the dogs yelped, and the children, and even some of the women and slaves, ran away at sight of a white man. We were soon accosted by one of the king's sons, — a boy whom I had frequently met before, — who told me that the king was anxious about me. He led us to the king's residence inside of the stockade, and motioned us to a seat on the bantang, before the door. In a few moments the king arrived, perfectly sober, and graciously received us, with a very patronizing air. Then, after interchanging a few commonplace remarks, he told me to ask a man, whom he pointed out to me, for anything that I might want, and then retired, saying that he would see me again during the day.

I had another interview with the king that day, and dined at seven. Being weary, I soon retired to rest, but got very little sleep, on account of the noise kept up all night by the Sonninkees, most of whom were drunk and quarrelsome. The stench of alcohol was almost intolerable; and I was glad, when morning came, to go outside of the stockade, to roam among the farms. The men and women working upon them soon familiarized themselves with the appearance of the white stranger, and plied me with questions, while the children followed me about, stared at me with wonder, and remarked to each other that my skin looked like pork. The rest of the time, up to the trial, was passed in this way, and in shooting in the vicinity; and I fattened on venison and other choice game.

The morning of the 20th, Salum Jarta arrived, with the other members of the court; and at about nine o'clock P. M. Samba Easer, the plaintiff in my palaver, was marched in as a prisoner, his elbows bound together behind his back, and guarded by Sonninkees, with drawn cutlasses, with which they occasionally pricked him, to hurry him along. He was mocked and jeered at by every native present; and one could not help pitying him who, yesterday, was the most influential Serrauli in Ouli, as he stood there, securely bound,

the jeer and laughing-stock of the slaves, who grinned and stared at him.

The night was passed pleasantly on the bantang. Salum Jarta had succeeded in persuading the king to keep rum out of the court until after the palavers to come before him should be settled. Every one, therefore, was sober. The principal men of Ouli were here, appearing at their best, and Salum entertained us with amusing stories, told as he alone in all Ouli could tell them, and some of which I would try to repeat here, if I but had the space. No one, who could have heard this great master of the Mandingo language on that occasion, could, for a single instant, doubt the humanity of the negro, or ever after rank him as an anthropoid ape. At length we gradually stretched ourselves, one by one, on the bantang, and were soon all asleep. The night was cool, there were no mosquitos (they are rare away from the banks of the river), and all noise had been prohibited within a certain distance of the king's residence.

The next morning, at about five o'clock, I was summoned to the court; and I soon perceived that the day was to be observed as a holy day in the Sonninkee capital. The Sonninkees were all clad in their war costumes, covered with gregrees, and armed from head to foot. It was a beautiful day, not very warm, and the morning air was refreshing. I at once proceeded to the large tree, half a mile outside of the stockade, where the court had already assembled, and a seat was assigned me near Salum Jarta. The king sat in the centre of the group on a leopard's skin, and was dressed in white; while the chiefs were in their full war costumes, and all armed with musket and cutlass. An armed crowd of upwards of two thousand Sonninkees sat on the ground, at a distance of not more than ten paces, in front of the court. Samba Easer's witnesses were all called, and then mine; and all having answered to their names, the plaintiff was told to make a statement of his case. He had been temporarily released from his bonds, and, for the time, allowed full liberty of speech. As he proceeded, a Sonninkee repeated his words in a loud voice, that all the court might hear and understand. His witnesses were then examined, and their evidence repeated in the same manner as his statement had been, word for word. When his witnesses had all been thus examined, I was called upon to make my statement, and I made it to the Sonninkee, who repeated it, as he had done Samba Easer's. Then my witnesses were examined in the same way, getting through by

eight o'clock. By this time I began to be disgusted with the proceedings; for neither the king nor the chiefs seemed to pay any attention at all to the trial, and they all looked as though they would like to go to sleep. I felt certain that none of them knew a word of what had been said.

At length, after an uninterrupted silence, Kalley Oualley straightened up and began to address the court; and, as he proceeded, I could not help looking at him with astonishment. This man, who had appeared drowsy, perfectly indifferent, half asleep, and stupid, now appeared a totally different being. He, the dirtiest, filthiest old drunkard in Ouli, now, for a wonder, sober, repeated the whole testimony on both sides almost word for word, made judicious remarks upon the character of the different witnesses who had been examined, and wound up in an eloquent appeal to the king not to allow the whites to have it all their own way, but to teach them, by a fitting example, that their black brethren were men, as well as they; and that they would not be allowed to impose upon his subjects on his soil, and in their country. He was listened to with the greatest attention and admiration. His gestures were graceful, and his language well chosen, and, time and circumstances taken into consideration, polished and elegant. The thought that this eloquent savage was the filthiest old drunkard I had ever seen anywhere, was almost a painful one. All the chiefs surprised me, in their turn, by their remarkable and truly astonishing memory; but none exhibited anything more than mere memory, save Kalley Oualley, until Salum Jarta's turn came. He always spoke last at all palavers, and never but once. Like the others, he summed up the evidence on both sides; he, furthermore, analyzed every sentence having any bearing on the case, and gave his reasons clearly why he accepted or rejected this or that witness's evidence. He wound up with an appeal to the king to protect the interests of his kingdom, and endeavored to show that the best way for him to do so was to protect the white trader. In conclusion, he asked that I be permitted to keep the produce in question, and that the plaintiff be compelled to pay for its transportation to the place of shipment to Bathurst.

During all this time the king had sat, reclining against the tree, apparently asleep; but, as soon as Salum had finished, he aroused himself, and began at once to sum up, not the evidence, but the remarks of his chiefs, passing in review their respective opinions.

He dwelt particularly upon the remarks of Kalley Oualley and Salum Jarta, and especially those of the latter. He then gave his judgment, which was, that I, the defendant, be allowed to keep the produce in question, and which I had bought and paid for; and that the plaintiff be compelled to pay me suitable damages for the time I had lost in preparing for and attending this trial, said damages to be determined by three arbitrators, whom he named. He explained that there could not possibly be any case against me, although there might have been one against those who sold me the nuts. It appeared evident, and it had been proved to his satisfaction, that the plaintiff

had endeavored to take advantage of his (the king's) stranger, forgetting that he himself, though black, was also a stranger, being a Serra-ouli. For this he must pay a fine of ten slaves, or their equivalent. He then, immediately, sent one of his sons to seize the goods of the plaintiff, with instructions not to return anything to any one before he was satisfied that all the claims arising out of this trial had been fully settled.

Thus ended my trial at this court on this occasion; and six days after this, I was back at Yaba-Tenda, shipping away my goods and produce to Bathurst.





GOOD Parson Meek, in name and nature
kin,

The friend of virtue and the foe of sin,
In thoughtful mood, by the mellowing light
Of a cosy fire, one Saturday night,
On an oft-turned text a sermon wrought,
Rich in expression and sound in thought,
Spreading it forth in the steady glow
That warmed his brain and made easy flow
Of crowded ideas there, ripe to season
His chosen theme, with discursive reason,
Appeared on the ruddy-tinted heat,
As if traced with the pen on a spotless sheet.
At the love of riches, the pomp of show,
The parson led off with a weighty blow;
At senseless fashion and fickle pleasure
He pommelled away in unstinted measure.
On speculation and ten per cents,
On corners in gold and usurious rents,
On trickish traffic and knavish zeal,
Indignantly wrathful, he set his heel,
Declaring gold the seal of the devil,
And the love of riches the root of evil.
Thus preached the parson in wrath and ire
That Saturday night to his cheerful fire.

Now, Parson Meek was by no means poor
In purse or person; his study floor
With "Brussels" was spread, and rich and
rare

Were the books and pictures gathered there.
His house was a model of elegant rest;
His table was spread with the choicest and
best;

His church was the grandest money could rear,
His salary over ten thousand a year;
His parish was wealthy, and weekly flocked
In the gayest fashions, at which he mocked.
For pomp and vanity, riches and pride,
Far reach, far search, on every side,
Ne'er could be found so fruitful a source
For subject to furnish a rich discourse
Than the congregation of once a week
In the frescoed church of Parson Meek.

Yet the parson faltered, and felt a shock,
When he turned his thoughts towards his flock,
And the full effects of his fierce onslaught
Full and clear to his mind were brought;
For Brother Blank and Deacon Dash
In copper stocks had mined their cash.
And Mrs. Zero and sister Nought
To lead the fashions long had fought;
And 'twas far from wise to strike a blow
That might "boomerang" his overthrow.
Perhaps he thought of generous hearts,
Hidden away under worldly arts,
That wrought much good his parish round,
Where the suffering poor were often found—
That flung deep purses at want's demands,
Into misery's lap with lavish hands.
Perhaps his logic found method whereby
His church might pass through the needle's
eye,

With riches and worth, and goodness and pride
Quite evenly balanced on either side.
Whatever the thought, the current turned;
No longer indignant his spirit burned,
As he sought a text with a milder ring,
Home to his people some lesson to bring.
His zeal 'gainst riches had cooler grown,
And that sermon was preached to the fire alone

Now, on this self-same Saturday night,
Fire arose in his crafty might,
The slave of man threw off his yoke,
From fettering chains defiant broke,
And stealthily seizing the sceptre of power,
The tyrant master ruled the hour.
With a sneer at the parson's faltering heart,
Reckless assuming the preacher's art,
He wrought a sermon so strong and clear,
That a crowded city quaked with fear,
And they whom fortune favored most
Awoke from their dreams to see its ghost
Vanish in flame. Rich spoils of trade,
In many a strong-walled fortress laid;
Vast stores from far-off Eastern lands;
Wealthy productions of gifted hands;

Cunning machines, by craftsmen reared,
In his greedy jaws quick disappeared,



Whom friendly counsel held aloof
From the crushing blows of his falling roof.

And grand old churches, massive and gray,
The gospel's sentries along the way,
Reared in love and baptized in prayer,
With passports of faith to a land more fair,
Our blessed symbols of trust in God,
Covered beneath the fiery rod;
And merchant palaces far and wide,
Towering in beauty, the city's pride,
Prosperity's roses in gardens of trade,
By his blasting breath in ashes were laid.
Then, glutted with spoils, in sudden wrath
He sped away on his fiery path,
And dashed with a roar into labor's nest,
Where, home returned for Sunday rest,
The wearied toiler nobly strove
To keep gaunt want from his home of love;
Merciless crawled on the rotting floor,
And snatched the crust from the starving poor;
With fiery fingers beckoned on
The aged man from his homestead torn,
Who sought to return, and meet his death
In the house where first he drew his breath,
Whom friendly counsel held aloof
From the crushing blows of his falling roof.

Up and away on the rushing wind,

Terror before and blackness behind,
Heavy smoke clouds roll across the sky,
Hissing brands in thick battalions fly,
Shovelled rafters seething writhle and crawl,
Blasted walls in wild confusion fall,
Dragging down to a horrible death,
Stifling their outcries with blistering breath,
The fearless and brave who strove with might,
To be crushed at last in unequal fight.
Ah, many a wife, in slumbers secure,
Shall weep for the mate who comes no more,
And many a mother miss from her side
The joy of her heart, its love and pride,
And many a home in confident rest
This night shall rob of its dearest and best.

Hard was the struggle that Sabbath day
To keep the fiery pest at bay,
While sickening fear and wild unrest
Pierced and tortured the anxious breast;
But stalwart heroes lashed and beat
The snarling fiend in his last retreat,
Till crushing blows and smothering rain
Drove the slave to his chains again.



Climbs to the chamber of innocent rest,
Wakens the mother and babe on her breast.



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1900

Up, up once more when the night comes down,
With thundering roars and a flaming frown,
He breaks from his prison and sallies out,
Torture and terror to scatter about,
Recklessly dashes frail barriers through,
And on, dashes on to destruction anew,



For there is his fate, and he turns aside
As the door from its stubborn hold is pried.

Sports with rich treasures of silver and gold,
Drags from their slumbers the young and the old,

Climbs to the chamber of innocent rest,
Wakens the mother and babe on her breast,
Then fiercer and faster dashes along,
His revel of ruin to further prolong.
But all in vain; the steady strokes down fall,
And well-poised weapons nail him to the wall,

While watchful guards the terror hold secure.
Once more he's conquered, and the battle's o'er.

Ashes of Roses! Beauty lies crushed;
Into our garden the whirlwind has rushed,
Blasting the garner of riches and pride,
Breaking the strength that misfortune defied,
Rending warm life from the hopeful and brave,
Shrouding our joys with the gloom of the grave.

Over the reeking and desolate scene
The moon in full glory up rises serene.
Through drifting smoke clouds stray beams
fitful fall

On broken arch, on black and splintered wall.
Strange watch fires flick and glow along the street;

The trusty guard patrols his measured beat,
And tap of drum, quick tramp, and stern command

Proclaim the presence of a martial band,
While far and wide a people sick in sorrow,
Anxiously wait the coming of to-morrow.

To-morrow! ah, yes, it will bring relief,
Though its coming perchance be fraught with grief;

For under the embers lie riches in store
The anxious merchant hastes to secure,
While doubt and fear assail his breast,
As the safe is torn from its fiery rest;
For there is his fate, and he turns aside
As the door from its stubborn hold is pried;
For there are treasures to rear more fair,
Or dust and ashes to bring despair.

To-morrow may bring to the trouble-tost
Glad tidings of joy from the loved and lost;
To-morrow may bring hope's cheery beam,
And out of the darkness warm light stream;
For all is not lost while honor survives,
And success oft journeys with him who strives.
To-morrow beauty from ashes shall spring,
And labor's hammer right merrily ring,
And the fiery whirlwind, fierce and vast,
Hurried away in the mouldering past.





TRINITY CHURCH AFTER THE FIRE.
Sketches amid the ruins of the Boston Fire, by MISS L. B. HUMPHREY.

